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Vol. III, containing Numbers 25 to 36.

THE

FOOD JOURNAL;

A REVIEW OF

Social and Sanitary Economy,

AND

Monthly Record of Food and Public Health.

"Appetite runs, whilst Reason lags behind."

LONDON:
J. M. JOHNSON & SONS, 3, CASTLE ST., HOLBORN.

SOLD BY SIMPKIN, MARSHALL & CO., AND ALL BOOKSELLERS.

1873.

MEDICAL
MAR 19 1918
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MAR 19 1918

PRINTED BY
J. M. JOHNSON & SONS, AT THEIR STEAM PRINTING WORKS,
56, HATTON GARDEN, LONDON.

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THE

FOOD JOURNAL.

LONDON MED
MAR 19 191

AUSTRALIAN MEAT.

THE high price of butchers' meat has once more directed public attention to the value of Australian meat as a partial substitute for it; and, preserved in tins, it has met with unqualified praise at the hands of writers in the public press for the last few weeks. The letters which have appeared on the subject seem to show that even now the admirers of this wholesome food are chiefly if not entirely to be found amongst clergymen, professional men, and clerks; for few, if any, letters are supplied by working men, who, unfortunately, seem not to use it as an ordinary article of domestic consumption, nor even appreciate its value. Doubtless prejudice has done much to deter our mechanics and agricultural labourers from using food which may, in their opinion, be of doubtful origin and composition. It is likely, however, that this feeling operates most on the latter class; for the mechanics are at present too independent to trouble themselves about cheap food, as every branch of trade in this country is just now in a flourishing state; and they can therefore obtain regular employment and good wages, and thus command not only the necessaries of life, but luxuries also in abundance.

The poorest classes of the community do not appear to be at all favourable to Australian meat, if we may judge from the newspaper reports. The guardians of unions, and the authorities who have in charge our criminal population, seem to meet with considerable difficulties in introducing the meat into workhouses and gaols, and cannot get the inmates to eat it, even when most carefully prepared.

Our fresh-meat supply is certainly one of the difficulties of the age in which we live; the rich have the means to purchase it, but, with the best beef at 8½*d.* a pound, when sold wholesale by the carcase, and mutton a shade higher, it is evident that many with small fixed incomes must either buy very little or use it rather as a luxury than a necessary of life. Many reasons are given for the high price of fresh meat, and the one that finds the greatest favour is that the butchers have combined to make fortunes at the expense of the

public. In a few cases this may be so, but the truth seems to be that every year Englishmen become more luxurious in living, and consequently more meat is consumed. An increased demand must lead to a corresponding rise in price, if the supply does not keep pace with the demand; and as this has not been the case, fresh meat has during the last few years steadily increased in value.

Butchers' meat would certainly have now been dearer if the latter part of the summer and autumn had not been very moist and mild, and particularly favourable for the growth of pasturage. Such abundance of grass has not for many years been known in the south of England, and the ordinary stock of cattle of the farmers have not been able to keep the pastures bare. The meat market has consequently been easier for the last few months, but there is every reason to anticipate a rise before the winter is fairly over. As the price increases, some great effort must be made to get meat at a cheaper rate for those who cannot afford to pay so high a sum; and it is consoling to find that Australian meat is rapidly gaining favour with the public; for while in 1866 the value of tinned meat imported from Australia was only 320*l.*, in 1870 it was 204,000*l.*, and in 1871 it exceeded half-a-million sterling. During five years the quantity imported has therefore increased nearly sixteen hundred-fold; and such a rate of increase must not only have taxed to the utmost the productive powers of the different manufacturing establishments, but must also have exceeded the most sanguine expectations of those connected with them.

In the end it may prove a benefit to the users of Australian meat that all classes have not taken to it at once, but gradually. Even under present circumstances, when its consumption is confined to a small class, the demand is greater than the supply; and now there is such a scarcity that the London agents of the several Australian companies cannot obtain sufficient for the wants of their regular customers. This temporary scarcity has caused the meat to increase in price about a halfpenny a pound, and if the demand had been more general it is fair to suppose that the price would have been much higher. This increase is much to be avoided, both in the interest of the colonies and ourselves. The strong prejudice which exists against the preserved meat is only overcome, in the majority of cases, by its low price; and if that price were now raised to any considerable extent it would not only deter people from using it but would also do much to divert public attention to some other quarter for a supply of cheap food.

The Australian colonists have at present an opportunity of securing a lucrative trade with this country, and it would be a pity if

they sacrificed their chance of a permanent business for a temporary gain. A little careful management on the part of the several companies is only required to regulate their supplies for the future, and for the present it would be well for them to adhere to old prices rather than create a prejudice which may at a future time be difficult to overcome.

That the present scarcity of Australian meat is only temporary, is evident from the fact that in Australasia there is an almost unlimited supply of cattle ready for export. The chief impediment which has hitherto stood in the way has been that no satisfactory method has before been devised of preserving the meat so as to make it a marketable commodity. This difficulty having now been overcome, the farmers are directing their attention to the subject of meat-preservation as being to them a source of great profit. Formerly, on farms distant from towns there was no outlet for the disposal of surplus meat; the cattle were therefore killed for the fat and hides, and the meat was thrown away as useless.

To show that there need be no apprehension of a failure in the Australian meat supply, it may be both interesting and instructive to those seeking information on the subject, to compare the statistics of the United Kingdom with those of the Australian colonies. For this purpose it will be necessary to give the area of the two countries, the population, and the live stock which can be used as food.

The population of Great Britain, including the Isle of Man and the Channel Islands, is very nearly 31,000,000; the area, 77½ million acres; cattle, 9,235,052; sheep and lambs, 32,786,783. The population of Australia, including Tasmania and New Zealand, is 1,844,185; area, 1,652,524,800 acres; cattle, 4,059,536; sheep and lambs, 49,136,642. From these returns it will be seen that the population of Great Britain is nearly seventeen times more than Australasia, whilst the acreage is nearly twenty-one and a-half times less. Great Britain owns two and three-tenths times more cattle, and Australasia one and a-half times more sheep. Fears may be entertained that as the quantity of meat imported into this country during the last few years has rapidly increased, there may have been a corresponding decrease of animals in the country. The fact, is, however, that the number of cattle and sheep have increased. The return for 1869-70 shows an increase of 50,000 cattle and 1,536,000 sheep over the previous year, and an increase on sheep over the year 1867 of 5,465,000—facts which go far to prove that a good export meat trade will cause the agriculturist to pay more attention than ever to the breeding of cattle. The agricultural returns for the United

Kingdom also teach the same thing, and show that whenever fat cattle are high in price and the feeding of them pays better than corn-growing, farmers at once change with the times and produce that which pays the best.

The above facts conclusively prove that the Australasian colonists have abundance of land for cattle-feeding to an almost unlimited extent, whilst the population, as compared with that of Great Britain, is so small that little of the animal food produced in the colonies is necessary to be retained for home consumption.

The prices of fat bullocks and sheep in the Sydney market will further show the great difference there is in the value of meat in Australia and Great Britain. A firm of cattle salesmen stated, in one of the Sydney papers, in September last, that of "fat cattle the supply has been barely equal to the demand, and we may quote good quality at fully 15*s.* to 20*s.* per head higher. The average sales may be quoted as follows:—Good heavy bullocks, 6*l.* 10*s.* to 7*l.* 10*s.*; ordinary bullocks, 4*l.* 10*s.* to 5*l.* 15*s.*; cows, 3*l.* 15*s.* to 5*l.* 5*s.* The market has not been adequately supplied with fat sheep. We may quote prices as higher than for some time past; best wethers, 11*s.* 6*d.* to 13*s.*; medium, 9*s.* to 9*s.* 6*d.*; ewes, 7*s.* to 8*s.* 3*d.* per head."

The prices in this country would be about five times as great as those given, and if the difference in value is so great now, when the preparation of meat for our home market is only in its infancy, there is every reason to believe that the supply will be practically unlimited when the large farmers throughout the colonies utilise the carcases of the cattle which they now throw away.

In the late newspaper correspondence on Australian meats, much has been written by those interested in certain companies to draw public attention to the superiority over all other of the meat prepared by these companies. Doubtless all who have regularly used Australian meat will have a partiality for the meat to which they have been accustomed. But, taking a broad view of the question, it is difficult to understand in what this superiority consists. The meat to be preserved is alike in quality to begin with, and is prepared by the same process. Objection might justly be made to the whole of the meat being slightly over-cooked, and in the case of certain companies, objection might justly be taken to the short weight of the meat; but it is a pity that at the commencement of a new branch of trade those interested in it should endeavour to bring success to their own company, not by healthy competition, but by traducing others. Public opinion is generally a safe guide in these matters, and if certain productions are superior to all

others, their superiority will soon be detected, and the increase in the sales will show that they are fully appreciated.

In bringing this paper to a close, there is one subject to which I wish to refer, because it seems to have been much overlooked, and that is the weight which meat loses during the process of cooking. Unless this loss is shown, no comparison can be made between the prices of butchers' meat and tinned meat, because the former is raw and contains bone, and the latter is cooked and without bone. The results given below are taken from Dr. Donovan's "Domestic Economy." The experiments were carefully made, the same conditions were observed throughout; and as the meat was considered cooked when some might fancy it was "underdone," the percentage of loss is rather under estimated :—

Legs of mutton, when boiled and separated from bone, lost							20	per cent.
,,	,,	,,	roasted	,,	,,	,,	31	,,
,,	,,	,,	,,	(overdone)	,,	,,	42	,,
Shoulders	,,	,,	,,		,,	,,	35	,,
Ribs of beef		,,	,,		,,	,,	26	,,
Sirloins of beef		,,	,,		,,	,,	35	,,

The effect of cooking and removal of bone may perhaps appear more striking if it be assumed that the beef and legs of mutton were purchased at 10*d.* per lb., and the shoulder at 8*d.* per lb., and then compared with the price of one pound of cooked meat free from bone:—

							s.	*d.*
A pound of	boiled	leg of mutton	would cost	..	..	..	1	0½
,, ,,	roasted	,,	,,	..	..	..	1	2½
,, ,,	over-roasted	,,	,,	..	..	..	1	5½
,, ,,	roasted	shoulder	,,	..	..	..	1	0½
,, ,,	,,	ribs of beef	,,	..	..	..	1	1½
,, ,,	,,	sirloins	,,	..	..	..	1	3½

R. B.

The *Pall Mall Gazette* calls attention to an old grievance amongst Londoners, viz., the want of markets, and especially of suburban markets. There cannot be any doubt but that new markets opened, say, in Kensington, Paddington, Camberwell, Islington, and other populous quarters, would prove amply remunerative to the promoters, and would do more than anything else to check the spirit of co-operation amongst consumers. Those who are curious in the matter cannot do better than go themselves to the wholesale markets for a week and compare the prices with those of their retail tradesmen. Even allowing for work, rent of shops, bad debts, and trade profit, a considerable margin would be left which at the end of the year would alter the complexion of many a bank balance. We regret to see that the old monopoly of Billingsgate is still sufficiently powerful to prevent a really good fish supply being established in Bethnal Green, and that for all the good that it is likely to be to the poor, Baroness Burdett Coutts might as well not have built the Columbia Market.

CHRISTMAS FARE IN THE HILLS.

My friend Simpson was, and is, a keen sportsman, and being in pretty easy circumstances, and of no particular profession, he indulges his hobby to a very considerable extent. A year or two ago he took a place, or rather he rented some shooting—for there was no "place," to take in that wild district—in a small village, which, not to be invidious, I will disguise under the name of Blankham. This village is nine miles from the nearest town and two from a railway station. It was the first season that he had been down there, and I and another mutual old college chum—a rising young surgeon—having promised to go and spend Christmas Day and the week following with him, in fulfilment of this promise took the Midland train and arrived at the station alluded to at about six o'clock, just in time for dinner. We were a little disappointed at not meeting Simpson on the platform, and much missed his cheery voice of welcome and the presence of his comely form. "The gentleman was not very well," the man said as he put our traps into the vehicle, "and had sent him to drive us."

When we reached our friend's quarters we found him indeed looking anything but himself. He had taken what rooms could be spared at a small farmer's house, certainly not very commodious, but sufficient for the requirements of a sportsman. It had its conveniences too. "For," said he, "the man is not only a farmer, but keeps a small store, and sells, I verily believe, everything eatable and drinkable that the village folk can possibly require."

We dined together, and, after a cigar or two *of our own*, and a bottle of the farmer's old crusted port, were conducted by our good-natured host to our respective rooms. In the morning, far from Simpson's looking better, he looked worse.

"Been raking or drinking or over-exerting yourself," suggested our medical friend, Smart.

"Not one or the other. I live as regular a life as possible here. Breakfast at eight; out on the hills; back at dusk; bed by eleven."

"Well, then, you have been eating or drinking something which has disagreed with you."

"Not so; nothing of the kind. Always live on simple diet while shooting. During the month I have been here I haven't partaken of anything but the plainest food; so that is impossible."

"What do you call plain food?"

"Well, as I've told you my hours, I'll give you my diet," said Simpson, smiling, "and you'll be able to judge."

"Do," said Smart, chipping an egg—[yes, on Christmas Day.]

"Bread and milk in the morning, biscuits and sherry in my pockets, chop or steak and potatoes, sometimes, though rarely, a pudding, cheese with celery, and a glass or two——"

"Half a bottle?"—

"There or thereabouts, of Tokeley's fine old crusted port."

"Who's Tokeley?"

"Farmer and landlord. Coffee or tea, with bread-and-butter or toast, and nothing after but a cigar—or, lately, a pipe or two, I could *not* stand Tokeley's cigars—with perhaps a second glass of gin-and-water."

"Stiff?"

"Well, yes, stiffish."

"Very abstemious; quite a sporting hermit, in fact."

"At any rate, you see, I can't hurt from what I do take—nothing deleterious."

"Art advised of that, lad?"

"Certainly." And there the matter dropped.

But it so happened that at the end of our week we were all rather squeamish. The air may have been pure enough, but something was rotten somewhere; and when the last two days of our stay came, Smart declined going with the dogs, but kept near the farm, and was constantly poking his analytical nose into all the farmer's premises and belongings. Nor was that expressive and scientific feature by any manner of means improved by the operation. Longer and longer, more scornful and suspicious—the nose has a fine power of expressing suspicion—our friend's nose became. I was over-persuaded, not very unwillingly, to stay the other three days with our poor ailing friend, Simpson. We were seated over a rather later breakfast on the morning fixed for my own departure, and he was expressing a half-resolution to accompany me back for advice and change when the long-legged letter-carrier was seen entering by the garden gate. There were several letters, one, I remember, from my wife (with which, being conjugally querulous touching those three extra days, I will not trouble the reader); I was immersed in its contents, my own facial proboscis rivalling in longitude—longitude penitential that is—that of our departed friend, when Simpson suddenly started up from the perusal of his own, shouting for Tokeley and the whole household to get out the mare and to assist him in packing.

"Not a gwoin, Mr. Simpson, zur?"

"Must, man. Important business. Come, look alive."

Whatever Mr. Tokeley looked, whether alive or dead, my friend certainly looked rueful to a degree.

"Don't ask me a question," he said—"not a word. Let me get out of this, and then——" Here the trap came round, and in half an hour we were seated snugly in our railway carriage, when, with a sigh of infinite relief, Simpson turned to me—we were alone—and said: "One of those letters was from Smart. Here it is; read it."

I did so, and this is what it read like:—

"Guy's, January —, 186 .

"Dear Simpson,—I dare say you noticed that when I left your hospital—I mean hospitable—quarters I had encumbered myself with a rather bulky parcel. You were polite enough not to inquire what that parcel contained. I am about to tell you. It contained well assorted samples of your hermit's fare, as supplied by the bucolic Tokeley, farmer and dry goods store. When you enumerated the various simple articles of diet on which you, with a self-denial which is above all praise, contrive to support existence during the sporting season, and said, with such an air of triumph, that it was impossible that you should have taken anything to disagree with you, I had my doubts; and certain symptoms of my own, together with certain observations on the spot, very much strengthened those suspicions which have been fully confirmed since my return to town. You asked me what it was ailed you. I can tell you now! Your friend Tokeley has been *poisoning* you! Don't start; don't knock the man down; don't give him in charge to that solitary village constable; he may not have known it. I have analysed all your simple hermit's diet, and I am about to give you the result of my scientific researches.

"With your daily *bread*-and-*milk*—sweet harmless innocent sound!—the process commenced. Taking it for granted that you consumed two pounds of bread every day—which, from my own observation, I think is within the mark—in the thirty-five days you have been at Tokeley's, judging from three samples I brought away, you have swallowed, at 150 grains per 2 lbs. per diem, 5,250 grains of alum. I think I heard you say you had suffered from nausea, griping, and purging at different times. My poor friend, these are the ordinary effects of alum. As to the milk, that was harmless enough in itself; but Tokeley's water isn't, and as I find he only adulterates to the extent of 40 per cent., any extra purgings

you suffered from that beverage it would be unfair to lay to the milk.

"Of *Tokeley's fine old crusted port*, allow me to give you the ingredients as nearly as I can ascertain :—cider, brandy, a *little* real port, ripe sloes, red sanders (for colouring), and powdered catechu. There was no alum in the wine, it is true; but those veracious (or mendacious) corks owed *their* fine old appearance to a strong decoction of Brazil wood with that commodity.

"As to your *coffee*, I can't say what effect that may have had; it entirely depends on whether chicory agrees with you. But for Tokeley's *tea*, I can pronounce that Prussian blue, how fine soever may be its effects to look at, as a facing or glazing medium, is *not* generally considered wholesome by the faculty. Sand and gum, too, are not such ingredients as I should myself prescribe in a patient's ordinary beverage.

"You contented yourself with about one half-pint of *gin* daily, which is lucky, as that alcoholic fluid *chez* Tokeley is strongly impregnated with combined sulphates. You pointed out to me, my poor martyr, how well it "beaded," how prettily the little bubbles clung to the glass. Well it might; it is the nature of sulphate of zinc to produce that effect.

"There is one thing on which I can most heartily congratulate you, and that is the substitution of Tokeley's *tobacco*, in which I detected nothing worse than green copperas, for Tokeley's *cigars*, so-called —those, at least, which I brought away with me being simply a deadly poison. They are what in the vulgar tongue are called the thorn-apple cigar. They are made of a herbaceous plant belonging to the genus *Datura*. You remember their bitter, acrid taste?—that arose from *daturin*. Ah! I congratulate you with all my heart that you eschewed Tokeley's cigars so early in your acquaintance with that mercantile agriculturist. My love to S——.

"Ever yours,

"Geo. Smart.

"P.S.—Perhaps I may see you in town shortly—eh?"

"Isn't it awful?" asked Simpson, as I gave him back the letter.

I said that I thought it was. But, after all, Tokeley is only a hardworking respectable British farmer and tradesman.

J. M. S.

DOMESTIC HYGIENE.

No. 3.—DRAINS.

One of the most important enquiries in taking a house should be as to the efficiency of the drains, for upon this will often depend its healthiness and therefore its suitability for habitation. It is not sufficient that the local sanitary authorities of the village, town, or neighbourhood in which a house is situated, have done their utmost to secure healthiness by the provision of stringent laws and as perfect a system of general drainage and sewerage as the means and advice at their disposal is capable of; much also depends upon the individual drainage arrangements of each house; so that, in spite of all their precautions, much of the ultimate success of their labours is dependent upon the builders of houses, over whom, in the details of their internal arrangements, they cannot well exercise any absolute control. Of what use will the main drains be to a certain house if its own drains, or their connection with the sewers, are imperfectly constructed? In such a case the imposition of a heavy sewers' rate is little less than an extortion for which the builder is primarily responsible, but in respect of which the local authorities too often get the blame. Irrespective of sewage arrangements, provisions for securing a dry subsoil round a house are essentially necessary; for nothing is more injurious to health than a damp house. As the general question of drainage is so all-important for securing the healthiness of habitations, we shall consider it in its several aspects, for which purpose we propose to devote two or three articles, each bearing upon the different points connected with it; and for the present we shall deal with the subsoil part of the question, and the consequences likely to arise from a neglect of the proper provisions necessary to draw away the moisture arising from local springs, or from the downwards filtration into the soil of surface waters.

When a house is built upon a light, gravelly, or sandy soil, it is clear that the ground itself will, in a great measure, act as an efficient drainage medium; but where clay or stiffish loam is met with, especial precautions become necessary to secure the proper drainage of the foundations; for if the foundations of a house are damp, the house itself can never be properly dry. A thoroughly dry house will also be much warmer than a damp one, and so more comfortable, besides being more healthy. It is also well worthy of being remembered that it is far more easy to apply preventive pre-

cautions from the first than to adopt remedial measures afterwards; indeed, it is often almost impossible to introduce the latter without great trouble and expense. Intimately connected with this subject, also, although having no connection with drains, is one that may not improperly be briefly noticed here. It is the effect which too rapid building often has upon the subsequent dryness of the walls of a house. When they are first built, ample time should be allowed to intervene before plastering, to allow the moisture absorbed by the bricks from the mortar to dry out; otherwise the internal covering seals in the moisture, and it cannot afterwards properly evaporate. A well-known consequence of rapid construction is that, after being inhabited and warmed by fires, the walls of a house will sweat, the heat drawing the moisture through the plastering into the house, thereby creating a damp atmosphere in the passages and rooms. At night time, when the internal temperature cools down, this moisture condenses and settles again upon the walls, only to be drawn out again day after day, creating the same injurious and unhealthy effects as those which we shall presently notice as arising from defective drainage. It is customary to lay a "dry course" in the walls, a little above the ground, consisting of slates, cement, or asphalte, to prevent moisture rising from the foundations up the walls, which it would otherwise do, by capillary attraction, through the pores of the bricks. This, however, is but a partial preventive against damp, if the lower foundations are not secured against moisture; for, although it may not be able to rise directly up the walls, it will be drawn by warmth out of the foundations, and find its way, as a vapour, through the boards of the flooring. None of those measures, therefore, which are now commonly adopted, and which should always be employed, will prevent the necessity for those which are too often neglected. The introduction of dry areas and air bricks below the "dry course," are but ineffectual provisions for the prevention of the ill effects consequent upon the absence of proper drainage. That they are useful additions cannot be denied, but they only partially counteract the evils against which they are intended to provide. To secure absolute freedom from damp, drains should be run all round the footing of the foundations, and at a lower level, externally in all cases, and also internally where the soil is of a tenacious character. These drains may consist either of earthenware pipes provided with sufficient fall to carry away the water from the building, or of a thick layer of rough gravel and brickbats. When this is not adopted inside the walls, the ground should be carefully sloped away from outside, with a drain at

the lowest point to carry away any moisture into the earth. All floors in basement rooms should be raised sufficiently off the ground to prevent any moisture getting into the girders, and a current of air should be secured by means of air bricks, communicating from beneath the floors with the air outside through the medium of a dry area; and all the drains of the house should be laid well below the foundations, and, while having plenty of fall into the main drainage system with which they may be connected, they should also be carefully laid on a good foundation, so as to guard against any breakage of joints through a settling of the ground beneath them.

Having thus briefly considered the necessary means to be employed in order to secure a dry house, there yet remains to be pointed out the evil consequences arising from a damp house, and the causes from which they arise. Experiments have proved the fact that germs of vegetation abundantly exist in the atmosphere, and even carefully distilled water has been found to propagate germination when exposed to the sun's rays; how much more, then, must water, impregnated with salts from the soil, favour what is commonly known as "spontaneous growth," when brought into contact with the atmosphere? The appearance of a damp wall is too well known to need any further description here. An outside wall will soon become covered with a species of moss, whilst inside a house a finer sort of lichen is found to grow in patches; the paper rots and falls away from the walls, or becomes discoloured, and what is called a damp smell pervades the room affected, and sometimes the whole house. The damp from the walls communicates itself to the floor joists and other woodwork, causing the growth of a kind of fungus, which flourishes most in dark and hidden corners. These different germinations absorb oxygen from the air and exude carbonic acid gas, well known for its poisonous nature, which, diffusing through the whole atmosphere, renders it injurious and unwholesome. It is for this reason that plants are considered unwholesome to be kept in a bedroom, or in any room that is usually closed for any length of time. Besides this, moisture in a wall causes the paste used in papering a room to ferment, the process of which destroys the paper and discharges the noxious gases arising from decomposition into the surrounding atmosphere. As a rule, the inmates of a damp house endeavour to counteract the cold effects communicated to the rooms by keeping up good fires, but it should be remembered that although, to the senses, the remedy appears effectual, warmth but encourages the development of the evils by stimulating the growth of fungoids, and increasing fermentation.

Fred. Chas. Danvers.

COOKERY PAPERS.

No. 7.—FISH.

In this paper I propose to discuss fish, which, as a natural sequence, should follow the consideration of the subject of my last article—soup. It is not my province to dilate upon the enormous waste which notoriously occurs every year with regard to this article of diet; but I cannot help suggesting that the unfortunate loss of so much good food is frequently unavoidable from the localisation of the supply. It is not, I think, so much because people in out-of-the-way places do not understand what to do with—*i. e.*, how to preserve—the abundance of food which the prolific ocean casts at their feet, as is frequently stated, as that the supply is in excessive proportion to the demand. The immediate consumption of the neighbourhood being perfectly inadequate to exhaust the supply, it must either be salted or cured, or wasted—turned into manure. Now, in many places where the expense of conveyance to a market is great, salted or cured fish, when sold, does not command a sufficiently high price to remunerate the parties concerned. Hence tons and tons of fish are annually turned into manure because it is not worth the expense of salting and conveying it to market; that is, because when sent to market it does not fetch a sufficiently high price to bring home any profit. I think we must allow that this state of affairs is inevitable in many places far remote from a market where the commodity would be saleable. Or, again, how can cured fish transported from enormous distances be expected to compete in price with the same class of fish procured from the immediate neighbourhood? Granting that the expenses attending the process of salting and curing are the same at both places, which is hardly probable, there still remains the cost of conveyance to market, against which, however, we have to set the difference in value of the fresh condition at the place where the fish is brought to shore, which, surely, would in many instances not balance the other greater expense. It is not so much because the people of remote fishing hamlets do not know how to cure the abundance of fish which fortune occasionally sends to their nets, as that they do know that it doesn't pay to cure them and send them to a distant market which receives a regular supply

from a nearer source. In fact, in many such places they only cure fish in sufficient quantity for the consumption of their own neighbourhood. The large amount of waste of this class of food which occurs annually in many parts of our coast is not due to ignorance, but rather to knowledge—the knowledge that it does not pay to save it. But I have wandered from my subject, which does not so much relate to the economy of the supply of fish as to the economy of cooking it. First, then, I will begin with fresh-water fish.

The monster tench, carp, pike, and eels, which the monks of old used to feed in ponds called fish-stews, (very good judges of good living were those monks; they dressed their fish generally in wine, or served them *en matelotte*), have passed away with the necessity which alone sustained their existence; for fish of this kind are not to be compared to the denizens of the deep sea, either as regards flavour or nourishing properties. But the monks had not invented railways, so must needs provide themselves with such fish as would inhabit the swamps and ponds and rivers which were then so prevalent all over the country, and could be obtained fresh in their immediate neighbourhood. High farming and drainage have banished the tench, the carp, the eel, and the rest of the fresh-water fish to very circumscribed districts of their former extensive domains, where still occasionally some monster specimen falls to the skill of the expert angler of the locality, and is duly served up in a lordly dish. But who would go to market and buy pike or tench, when a magnificent turbot or delicious mullet might be purchased for the same money?

Few river fish are worthy of the notice of the disciples of Epicurus. The eel, however, so justly admired from time immemorial, is dressed *en matelotte*, a luxury meet for the gratification of the most fastidious connoisseur of *haût goût*. The tenacity of life which these fish possess is remarkable, and no stream is too foul for their habitation. They have been known to pass up the sewers of towns, and will migrate across the fields from one pond to another—in fact, they will live for days without water. Most of the large eels which appear in our London markets are procured from Holland.* There are two or three kinds of eel found in our rivers, of which the silver eel is the most highly esteemed. Eels may be stewed in wine, or served spitch-cocked, fried, or collared. The pike may be boiled and served with anchovy sauce, or stuffed

* *Hints for the Table* says, "whole cargoes of Dutch eels are daily sent up the river to be eaten as Thames or Kennet eels at Richmond, Eel-pie Island, etc."

and baked, and eaten with piquant sauce; if cut in slices and broiled it is excellent for breakfast. Perch are best stewed or broiled; small ones should be fried; but beware of the bones—and small perch are all bones, and require the exercise of patience. The barbel, if eaten, should be stewed; the parts about the head and round the collar-bones are considered the tit-bits. Bream are good for nothing but manure.* Trout, I need not say, are delicious, as are also char, and the other species of the same family. Plainly boiled, if large fish, they are excellent, or they may be stewed in claret. Cold trout, with salad or cucumber, is a very nice dish; and a *mayonnaise* of trout is a gastronomical *bonne bouche*. The smaller fry, which abound in many places, should be broiled or fried. Carp should be stewed, as the monks nearly always treated them. Crayfish make an excellent soup—*Bisque d'Ecrevisses*—or are very useful as garnish when boiled, and are in much demand for the purpose of decorating the *chef d'œuvres* of skilful cooks. I allude to the small fresh-water crayfish. The large sea crayfish may be used for any purpose when lobsters are not available; it is not, however, equal to the lobster in flavour. Eels, trout, and many other fish are often baked in a pie, and are very good; trout may be potted; gudgeon should be fried like smelts. The lamprey is, I believe, an excellent fish, much like a stunted eel. We all know the story of Henry the First's fatal greediness; but the lamprey is a fish not easily obtained now-a-days, and rarely seen in our markets; though a writer, writing in 1854, says:—"This self-same fatal material, cooked up in a pie, is, by ancient custom, transmitted annually, at Christmas, as a token of loyalty by the city of Gloucester to the sovereign of this country," and adds, "At that particular season of the year they (lampreys) can hardly be obtained at a guinea apiece." Smelts and whitebait, though caught in rivers, are usually found in brackish, if not quite salt water. However, I may as well consider them here. The smelt is a fish which must be eaten quite fresh; it has a pleasant odour, something like the scent of the violet, and is of a delicate, pale, transparent green colour on the back, with a silver belly and sides—in fact, the fish itself is so delicate as to be almost transparent. When stale it loses its peculiar odour. Smelts *must* be fried, and eaten with melted-butter. Whitebait—what is it? I will not open up the much-vexed question; it is sufficient for my purpose here to say that it is a delicious fish, much esteemed by epicures;

* The chub is not held in much estimation, the flesh being woolly and insipid, and when cooked should, I think, be broiled.

and that the only whitebait with which I am acquainted is caught in the Thames. To be eaten in perfection the *gourmêt* should dine at Blackwall or Greenwich. There are other places where they pretend to catch whitebait, but the genuine fish is only to be caught in the Thames, I believe. Whitebait is said to be found in the Hamble, which flows into the Southampton Water; in Scotland in the Firth of Forth, and at Constantinople in the Bosphorus.

This fish is of so delicate a nature that it is said, if placed on a dish at night, nothing will remain the next morning except a few spots of dirt—which means that it will not keep twenty-four hours. Brown bread-and-butter and lemons should accompany its *entrée*. This enrapturing delicacy should be sprinkled with flour and fried quickly, and each person should try a second dish, which should be devilled. The tench should be stewed. The rudd is a fish somewhat like the roach and dace; they are never good eating, in whatever way they are cooked. The grayling and the sewin are a species of trout, and should be cooked in the same manner. The sturgeon, I think, may be classed as a fresh-water fish. The flesh, when cut, should be white, if the fish is in good condition; a slice out of the middle stewed in wine is excellent. Sturgeon steaks are very good. Caviar is, or ought to be, prepared from the roe of this fish, though much of the substance sold as caviar is the roe of other fishes. The flesh of the sturgeon much resembles veal.

The eel pout, or burbot, is a delicious fish, very like an eel, but more stunted in appearance. It was some years back to be caught in the Cam, but is now extinct there. It is found in "the Severn, the Trent, and some rivers in Yorkshire." Minnows are sometimes eaten by the uneducated gastronomer as whitebait.

I think that I have now exhausted the catalogue of fresh-water fishes; and in conclusion I would advise any one who has had a good day's sport, if possible, to eat it the same day; and also, if any doubt exists as to how any fish should be cooked, *broil* it; *most* fish are delicious broiled. Fresh fish is nourishing; stale fish is pernicious in the extreme. No one has eaten fish in perfection who has not eaten it a few hours after it is caught.

A Cook.

The biscuits in store at Gibraltar appear more fitted for a museum of natural history than for the interior of the stomachs of her Majesty's subjects. Mr. Rowsell, the superintendent of contracts, brought home with him from these stores a choice collection of maggots, upon which Professor Huxley was asked to give an opinion. It is to be hoped that this opinion will be made public, so that those who have to eat the biscuits may have the satisfaction of knowing the genera of the live stock which they have been compelled to devour.

MEAT FROM NEW ZEALAND.

Whilst the importation of fresh meat from Australia is rapidly increasing, and company after company is being formed in our Australian colonies for the prosecution of the new trade which has been opened up, a New Zealand Meat-Preserving Company (James Wotherspoon and Co.) has entered the same field, and has commenced operations on an extensive scale and with an energy which seems to promise success. Shops have been opened in the towns of Scotland for the sale of New Zealand meat alone. We are informed that there are about ten of these shops in Edinburgh, and no fewer than 45 in Glasgow, and that they are much frequented by the working classes, as well as by others to whom it is a matter of importance to procure good fresh meat at a moderate price. Mutton is sold at 7½*d.* a lb., beef at 8*d.* Both are sold in quantities to suit the convenience of customers, from a quarter of a pound upwards; and in this respect the new enterprise of this company merits high commendation, as it brings the valuable commodity in which they deal—one of the prime necessaries of life—within easy reach even of persons in very poor circumstances, who cannot afford to buy more than a small quantity at a time; whilst others also must often find it more pleasant to purchase only what they intend to use at a single meal, than to buy a whole tin at once, as the purchaser of Australian meat has hitherto been obliged to do. The fat—of which each tin contains a considerable quantity—is also sold separately, at the price of 6*d.* a lb.; and the scraps, of which some always remain after the contents of a tin have been disposed of, are mixed with a little gelatine, salt, and pepper, made into a kind of potted meat, and sold at 4*d.* a lb. Nor are even the empty tins thrown away. Being neatly opened, they are sold for 1*d.* each, readily finding purchasers, to whom they are useful for many purposes, and who, for an expenditure of 4*d.* or 5*d.*, can get them made into pitchers or tankards as good as could be obtained from the tinsmith for 1*s.* or 1*s.* 2*d.* The shops are remarkably neat and clean, and everything about them is attractive. We understand that it is the intention of the New Zealand Meat-Preserving Company, which, being a Scotch company, naturally began its operations in Scotland, to extend them speedily to the towns of England; and we expect soon to hear of shops being opened for the sale of New

Zealand meat in London, and in all the English towns. We wish the company great success and prosperity, being convinced that their operations would be attended with great advantage to the public, and especially to the poorer classes of the people. We are glad to be able to commend very highly both the New Zealand beef and mutton; although we cannot say that we deem them superior to the Australian. They are, however, more firm, and can more easily be cut with a knife, which is of great importance, as making it easy to divide them into small portions for sale.

The success which has followed the experiment made by the New Zealand Meat-Preserving Company in their shops has already induced a number of shopkeepers to adopt the practice of opening tins of Australian meat, and offering their contents for sale in small quantities, to suit the convenience of purchasers. This trade, wherever it has been established, is rapidly becoming more extensive; and it is pleasant to be able to add that the prejudice against preserved meat, at first very prevalent, has in a great measure given way. There is ample field for competition, and all the meat supplies that can be obtained from Australia and New Zealand will probably soon be found insufficient to meet the demand. The colonies in that part of the world are indeed evidently capable of yielding a far greater supply than they have yet sent into our market, and may be expected to do so, as the demand increases and the trade is found profitable. But time must be allowed for the development of their resources. All their present surplus would not be nearly sufficient for the wants of Britain, and cannot be deemed likely to reduce the price of fresh meat much in our market. The utmost result that can be expected for some years is that further increase of price may be prevented. In these circumstances it is satisfactory to learn that a company has been formed for the importation of preserved meat in tins from South America. The success of the enterprise must depend mainly on the quality of the meat, and that will be very much according to the manner in which the cattle are treated before being slaughtered. If meat-preserving establishments are formed within a short distance of the pastures on which the cattle are fed, meat of fair quality may be expected; but if the cattle are driven from remote farms to Buenos Ayres and other seaports to be there slaughtered, after the fashion hitherto prevalent, the meat cannot be expected to be so good and wholesome. We trust, however, that the undertaking will be conducted in a judicious manner, so as to yield satisfactory results.

J. Montgomery.

THE PLAGUE OF 1871 IN BUENOS AYRES.

It is less likely that these sweeping and contagious maladies should be always sent for the punishment of impious men, because I remember to have read in good authors that as some plagues destroyed both men and beasts, so some other did peculiarly destroy animals of very little consideration or use to men, as cats, &c. Upon these and the like reasons I have sometimes suspected that in the controversy about the origin of the plague, namely, whether it be natural or supernatural, neither of the contending parties is altogether right.

BOYLE, *Discourse on Air*, vol. iv., p. 288.

A PESTILENCE has just swept over the city of Buenos Ayres which, if not equal in fatality to some of the epidemics in our own country during the seventeenth century, is almost without a parallel in modern times. Two accounts of this great disaster have come into my hands, one by the Rev. T. E. Ash, B.A., Chaplain of British Legation at Buenos Ayres; the other—more strictly medical—by William N. Hiron, M.R.C.S., published in the *Medical Times and Gazette;* and it has occurred to me that some useful sanitary lessons might be gathered from the graphic and instructive narratives which these gentlemen have given.

Buenos Ayres, the capital of La Plata, the city of "*good air*," is a town of some 180,000 inhabitants, situated on the banks of the river Plate. Until recently it has borne a high reputation for health; "as far as natural climate, air, and soil of the country are concerned, unquestionably the healthiest place in the world," is Mr. Ash's description. Alas, that man by indifference and neglect should have made it what it is! By what accident or providence it has escaped so long and avoided a catastrophe is one of those mysteries that we cannot attempt to solve. Imagine a city with narrow streets, crowded houses, and, in parts, a density of population almost beyond belief; where there is no provision for drainage beyond the cesspool or old well; no water supply save that from the river—a river so poisoned by filth, that "dead fish covered the roadstead as high as Palermo." Add to this a sluggish inlet into which the Riachuelo (our little Ganges, as it was aptly termed) poured a reeking mass of *débris* from the slaughter-houses, which may be better imagined than described; "the Saladeros continued working, and the river at Baracas literally ran blood; the smell in December had been so horribly nauseous that in various parts of the town ladies and people of weak constitution were seized with vomiting when the wind blew from the south."

would not seem far to seek: decomposition of animal and vegetable matters of the vilest description, under an almost tropical sun, poisoned drinking supplies, densely crowded and filthy fever nests invited the outburst of epidemic disease, and fed it to the last; whilst an imperfect sanitary administration could but look on with dismay. The losses from the plague were variously estimated at from 20,000 to 26,000, and at one time there remained but 40,000 people in the town, of whom 7,000 were sick, with a daily mortality of 600 or 700.

Such was the plague of the year just ended in Buenos Ayres. It will be well if a lesson has been learned, and a desire for sanitary improvements impressed deeply on the people. Dr. Scrivener will doubtless return with all the knowledge to be gained in Europe; his difficulties, however, will begin when he faces the evils, which have been so clearly pointed out in the narratives to which I have alluded. We may hope that as the cholera with its attendant horrors was the mainspring of sanitary life and work in England—though the fruits, alas, are small even yet—so the epidemic of yellow fever in Buenos Ayres may be the means of averting future evil,—not alone by the local precautions to which it may give immediate effect, but by enforcing attention to sanitary science and to the ordinary requirements of social and municipal life.

E. T. Wilson.

From the *Chemical News* we learn that Dr. Husson has been investigating milk taken from cows while attacked by typhus. The milk of twenty-two cows, belonging to the same proprietor (of which number four were so badly attacked by contagious typhus as to necessitate their being immediately killed, while another batch of four were apparently quite well, and fourteen in a doubtful condition), has been investigated by the author. It appears that, as compared with the composition of normal milk, the milk of all these animals became more or less altered as regards the quantity of normal constituents, and may be termed very poor; yet, with the exception of the milk taken from the four cows which were very ill, there was nothing disagreeable about these samples, and of the milk, which had got a bad taste and colour, a cat drank some 50 grms. without experiencing any bad effects. The author draws this conclusion, among others, from his researches—that neither the milk nor meat from cows so diseased can give the disease to men or other animals not belonging to the *Ruminantia*; yet, very properly, he urges that severe measures should be taken to prohibit the use of milk as well as meat of cattle even suspected to be attacked by contagious typhus to be used as food; in fact, the milk, even at the first beginning of the disease, is entirely altered chemically as well as in its histological characters, as revealed by the microscope.

ARTIFICIAL MILK.

Of the many enquiries which took place in Paris during the siege respecting the preservation of food and the adoption of new, or rather unused, elements, there are, doubtless, some that failed to reach the ear of the British public, and the discussions respecting artificial milk were, we believe, of the number.

In the Academy of Sciences on the 16th of January a communication was read from the well-known industrial chemist, M. Dubrunfaut, on the composition of milk, and on the preparation of obsidional milk. The average milk of the cow contains, according to M. Boussingault:—

Nitrogenous matter (casein or albumen)	0·0337
Fatty matter (butter)	0·0376
Sugar (lactine)	0·0567
Salts	0·0020
Water	0·8700

According to the late M. Payen, human milk is sensibly alkaline, a quality which is due to soda; this fact is borne out by numerous analyses, and accords with general opinion. Many physiologists, founding their observation on microscopic examination, account for the formation of butter by churning, by declaring that the globules of butter are contained in thin membranes, which are broken by the mechanical action so as to place the butter at liberty. This theory M. Dubrunfaut sets down as unfounded. If, he says, any neutral fatty body taken in the fluid state be submitted to the process of emulsion in slightly alkaline water, analogous to the serum of fresh milk, globules are obtained which under the microscope have the aspect and varied dimensions of those of butter. This fact is still more evident when the alkaline quality of the serum is increased, that is to say, when the emulsion is effected in water which contains from 5° to 6° alkalametric of soda crystal per litre. In these conditions the fatty matter which has been submitted to emulsion behaves like milk, the cream being separated by repose. The saturation of the alkali restores to the fatty body after emulsion the property of rising and collecting above the serum in the form of oily liquid. If it be borne in mind that by churning the serum contracts a very sensible acidity, due unquestionably to the commencement of lactic fermentation which developes itself so rapidly in buttermilk, the inutility of the membrane theory will be evident. Moreover, if the globules were covered with membranes,

they ought, like organised cells or tissues, to exhibit the phenomena of double refraction, which they do not. Finally, M. Dubrunfaut proposes to ascertain by experiment whether, according to the views of MM. Hopp and Müller, butter is produced in the milk after it has been drawn from the animal.

From these theoretical considerations M. Dubrunfaut has been led to the preparation of an artificial milk, which the Academy pronounced worthy of consideration. The production of artificial milk is a highly useful operation, and M. Dubrunfaut seems to have solved the problem by making use only of elements which exist in large quantities in Paris. The whole theory depends on the emulsion of a fatty body in an alkaline serum, offering a like, if not identical, constitution to that of milk.

The following is his recipe:—Dissolve in half a litre of water 40 to 50 grammes of saccharine matter (lactine, cane sugar, or glucose), 20 to 30 grammes of dry albumen (desiccated white of egg, as sold ordinarily in Paris), 1 to 2 grammes of crystals of soda. With this mixture make an emulsion with 50 to 60 grammes of olive oil or other comestible fatty matter. The emulsion succeeds better warm than cold; a temperature of 51° to 60° Centigrade is sufficient for the purpose. The milky liquid thus produced has the consistency of cream, and assumes the aspect of milk when added to an equal volume of water. M. Dubrunfaut also recommends the use of an alimentary cream richer than the preceding in fatty matter, which is produced by substituting gelatine for the albumen in the above receipt. 100 grammes of the emulsion of fatty matter may also be introduced into a litre of serum containing not more than 2 to 3 grammes of gelatine. The substitution of the last named substance for albumen offers no inconvenience, as the recent communications of MM. Dumas, Fremy, and Chevreul have established the fact that gelatine is an alimentary substance.

It should be remarked that many French chemists support the theory of the globules and membranes discarded by M. Dubrunfaut.

M. Thierry Mieg also communicated to the Academy a formula for the preparation of a fitting food for infants. He adopts the theory of Liebig, and recommends the use not only of malt and feculæ, but of cocoa, butter, and *extractum carnis*, all reduced to an impalpable powder, to be mixed with cold water and afterwards boiled; the proportion of water is about ten times that of the powder, by weight.

M. A. C. Gaudin, with reference to the communication of M. Dubrunfaut, announced to the Academy, that fifteen years ago, having at his disposition a bakehouse, furnaces, and steam, as

means of studying the preparation of food, he succeeded, in concurrence with M. Choumara, by means of emulsion under high pressure steam, in converting soup, or *bouillon de viande*, made principally with bones rich in grease and gelatine, into milk. Recently, having been employed in the disinfection of bone grease of a very disagreeable nature, in order to render it comestible, he discovered, at the same time as M. Dubrunfaut, that, with the aid of steam, all bad odours could be removed, so that chocolate mixed with bone grease thus purified did not possess the slightest disagreeable taste. In the face of these results, his attention was again turned to the production of artificial milk, by adding to the purified grease gelatine equally fit for alimentary purposes. With the aid of the apparatus and utensils employed in Paris, 500,000 litres of this artificial milk might, he says, be produced daily, which would be a great boon at moments of scarcity of certain provisions.

"This artificial milk," says M. Gaudin, "assimilates very nearly to that of the cow; when kept, it emits an odour that can scarcely be distinguished from that of sour milk and cheese. In the composition the caseine is represented by gelatine, the butter by grease, and the sugar of milk by ordinary sugar. It is suitable for the preparation of *café au lait* or chocolate, bread and milk, and creams of excellent flavour, and the cost of it is trifling."

G. W. Yapp.

According to Dr. Graham Balfour, Deputy Inspector-General of Army Hospitals, the sickness in the navy between 1859 and 1868 was about one-fifth greater than that of the army, while the deaths from all causes were 48 per 1,000 higher; and this excess is partly attributed to the fact that there are a very much larger number of boys in the army, at which period of life mortality is at its lowest. Sailors suffer much more than soldiers do from dyspepsia in the proportion of 37 per 1,000 to 13 per 1,000, and this probably arises from the difficulty so frequently experienced in getting a sufficient quantity of fresh provisions. Tubercular disease prevails more amongst the red coats than the blue jackets, but, on the other hand, the latter are very much more addicted to *delirium tremens* and epilepsy; we fear that Jack is still too fond of his grog.

MANCHESTER FOOD MARKETS.

No. 1.

The wholesale fruit and vegetable market in Manchester is, without doubt, the largest in the United Kingdom, and probably the weight of farm and garden produce brought into it is not exceeded elsewhere. This statement will not surprise those persons who are aware that Manchester, with a radius of forty miles, has a larger population than the metropolis and a similar radius. Manchester, including Salford, has a population of nearly half a million souls, and as each of these souls have a body to support, the market in question is pretty sure of customers. But it is not the home customer alone who supports it. Many populous towns within the radius mentioned are almost exclusively supplied from it, and many shopkeepers from some of the large Yorkshire towns, even beyond the radius, come to it for their spring supplies. Manchester is the centre of an enormous number of consumers of fruit and vegetables; but such things are produced but on one, the Cheshire, side of it, and it is this peculiarity which has made it the wonderful mart which it has become for business. The westerly, its productive side, is continually pouring in vast supplies from its rich and well-tilled soil, but our market draws its supplies from almost every corner of the globe.

It has flowering brocoli, early potatoes, and radishes from Cornwall and the Scilly Isles; cabbages, cabbage plants, peas, potatoes, carrots, mushrooms, apricots, peaches, apples, pears and plums, from Lincolnshire, Notts, and Northamptonshire; damsons from Staffordshire, Derbyshire, Shropshire, and North Wales; cauliflowers, cabbages, savoys, brocoli, peas and potatoes from distant parts of Yorkshire; early radishes and peas, as well as all kinds of fruit, from Worcestershire, Herefordshire, and Gloucestershire, whilst two or three trains, arriving every night, bring the better sorts of fruits, vegetables, and herbs from the London markets, or direct from the southern growers. We must not omit to notice also the almost incredible quantities of onions and cucumbers sent to Manchester from Bedfordshire.

Lancashire, itself, may fairly claim the credit of growing three articles to perfection—namely, potatoes—in our opinion there is no potato grown so good as the Ormskirk kemp—red cabbages, and

celery. The wholesale price here of red cabbages of fair size, at the present time, is 2*s.* per dozen; and of fine red, or "Lady white" celery, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen. The fluke potato was brought out by a Lancashire man, John Turner, a weaver, of Middleton. Lancashire, also, has the honour to be the first English county in which the potato was ever grown.

From Ireland we get cauliflowers, brocoli, cabbages and cabbage-plants, gooseberries, and mushrooms; from Scotland, large quantities of very excellent potatoes, grown from the York Regent sets. Of foreign produce there is poured into this emporium —chiefly from the port of Liverpool, a little over thirty miles away— oranges from Oporto, Lisbon, Valencia, Messina (also lemons), St. Michael's, Seville (bitter, sour and sweet), Tangiers, Figuerina, and Carthagena; onions, chestnuts, and nuts from Spain and Portugal; nuts, chestnuts, and walnuts, and many kinds of soft fruit from France; figs from Greece and Turkey; pineapples from Algeria and the West India Islands; cranberries from Russia; cocoanuts from Pernambuco and Honduras; onions, cucumbers, potatoes, currants, cherries, and whortleberries from Antwerp and Rotterdam; and the celebrated Newtown pippins from Boston and other American ports.

For the accommodation of these vast supplies a large space of market ground is required. This Manchester possesses; for, independently of many thousand yards of open space, it has an area measuring 11,441 square yards, which is entirely covered—its streets, avenues, and all, with one unbroken roof, lofty, airy, and light, and open to the uncovered market on three of its sides.

Some idea of the business done here may be gathered from the fact that an official return shows that during one week this summer, from the 31st of July to the 5th of August, there were delivered into the market 38,593 hampers of potatoes of 126 lbs.; 10,447 sacks of peas of 12 pecks, and 146 cartloads of cabbages.

Although it is the commoner kinds of vegetables, such as the last mentioned, which form the staple of the market, it must not be supposed that there is no traffic in the finer sorts, such as find their way to the tables of the wealthy. Would the reader "be surprised to hear" that the whole of the pines for the Lord Mayor's banquet, both this year and last, were not only supplied from the Manchester market, but grown within four miles of it? Whether or not, it is a fact.

The markets and manorial rights were purchased by the Corporation of the city from the late Sir Oswald Mosley, in 1846, for 200,000*l.* The markets have all been, or are about to be, much

enlarged and improved. The one more particularly under notice was, at the time of the purchase, entirely uncovered, and only a third of its present size. The amount received as tolls for the first year (1846-7) was 5,907*l.* 2*s.* 8*d.*; the amount received for the last year was 23,602*l.* 0*s.* 9½*d.* The total amount received the first year from all sources, rent of shops, quarterly stalls, etc., etc., was 10,345*l.* 4*s.* 4*d.* The amount received by the department from all sources in the year last ended was 35,092*l.* 9*s.* 10½*d.*, showing an increase of 24,747*l.* 5*s.* 6½*d.*

The staff of officials required to work the concern consists of a superintendent, who has the supervision of the whole business of the department, five collectors, five assistant collectors, with two extra during the summer months, a meat inspector and an assistant, four weighing machine clerks, two office clerks, six market constables and an inspector, a gasfitter, a carpenter, and a lamp-cleaner. There are also attached to the markets 400 licensed porters, who are supplied with a numbered brass badge to wear on the left arm when on duty, and a printed copy of the bye-laws of the markets for reference.

The quantity of whortleberries, or whinberries (called here *whim*berries) sent to this market from Rotterdam and Antwerp, is such as would make a Covent Garden salesman wonder. A few seasons ago one salesman here had 1,500 packages of them in one day, and they were almost given away. The consequence was there was scarcely a factory worker throughout the district on the following Sunday who was not black in the mouth. In plentiful seasons a considerable quantity of this wild fruit is sent also from North Wales, and, arriving fresher and in better condition than the foreign, brings a better price. It is also astonishing to see the quantity of pot-herbs disposed of here. The industrious workers in these northern counties are very fond of broth, with plenty of herbs in it, and so it comes about that there are more pot-herbs sold in the Manchester market in one month than in Covent Garden in twelve.

Twenty-five years ago the only water-cresses to be seen in this market were brought to it on the backs of the peripatetic rustics, who sought out, and gathered them in the Cheshire brooks. Now, from early spring until past midsummer, hundreds of baskets of the fine-grown, clean and cultivated cress arrive every morning from London, and is sold at a price which has sent those who formerly were wont—

"for bread,
To strip the brook with mantling cresses spread"

—to seek in fresh fields, and pastures new, for the roots of the dandelion and other plants for the medical herb stalls.

If a Londoner were to take a stroll round this market early on a summer's morning, say, about three or four o'clock, when the country buyers are making their purchases, he would be sorely puzzled to make out what they were talking about. There are various dialects used peculiar to the district of the speaker. Some of the salesmen know, the moment their customer speaks, what part of Yorkshire, Lancashire, Cheshire, or North Derbyshire, he hails from.

"What art axin' for the *praters* this morn?" asks one. The question is probably put to a Cheshire farmer, from Delamere Forest, who answers, "I'll not tak less than fifteen shillin ter dee;" when he gets for a rejoinder, "Fifteen shillinck! tha 'll be fain ter tay less fore tha gooz whome t' neet." The next would-be customer will probably ask the price of "*potter*ters." Another, how "*taties* are goin'?" and so on. Our cockney visitor might also wonder at the command that the people have here of their anatomy, if he heard, as we have before now, in answer to the question put, perhaps, to a burly farmer or gardener, "Hast got any kidneys?" "No; but I shall have some to-morrow."

He would not fail, however, to find a plentiful sprinkling of "the brogue" in the confusion of tongues around. Many of the hucksters, and about three-fourths of the porters, first saw the light in that land where there are no snakes. We remember hearing a rich bull here some years ago, when "spud fruit" were dear. A huckster, evidently fresh from the shamrock shore, asked a farmer the price of his "praters." "A pound a load" (252 lbs.), was the reply. "Och, murther!" says Paddy, "why thin, I've seen the time I could buy 'em in Drogheda for nothin', an tak 'em to Dublin an' sill 'em for twice as much!" and he walked away evidently lamenting the decline of such prosperous times.

On the south-easterly side of the market a variety of articles are sold, including dried fish, eggs, butter, cheese, etc., etc., and also many things which are not food, although almost as necessary, such as ready-made clothing, drapery, goods, etc.; and there is an excellent earthenware market attached. Stalls, also, for the sale of jewellery, toys, combs, cutlery, hardware, tinware, books, and trinkets of every description, are allowed to be placed on the ground vacated by the market gardeners at noon. All these, however, are being gradually cleared away as the necessity arises for increased space for the legitimate merchandise of the market.

J. P.

SALT.—No. II.

Having previously treated of the preparation, qualities, properties, and uses of salt, I proceed finally to notice some ancient and modern customs, observances, and popular superstitions connected with this invaluable product of nature.

Salt, from the remotest period, has been employed in sacrificial rites; a circumstance which invests it with more or less of a sacred character. According to the Mosaic ordinances salt was required to be sprinkled on all flesh offered in sacrifice, and hence it was designated "the salt of the covenant." Among the Greeks and Romans salt was not only employed as an indispensable adjunct of their bloody sacrifices, but was itself offered as a propitiation when no animals were slain. Thus in the Ferialia, or offerings to the Dii Manes—designed to redeem from the vengeance of the Stygian or infernal deities—the Romans simply used salt, mixed with a small portion of flour:—

Parva petunt Manes, Pietas pro divite grata est
Munere, non avidos Styx habet una Deos,
Tegula porrectis satis est velata Coronis,
Et parcæ fruges, parvaque Mica Salis.

In the Lemuria—another festival to the same Dii Manes—beans were substituted instead, the celebrant repeating these words:—

His inquit, redimo, meque, meosque fabis.*

Salt was likewise mixed with the sacrificial cakes used by the Greeks and Romans. It became an indispensable concomitant of their lustrations, which, says Tennant, "gave rise in after times to the superstition of holy water." Much reverence was consequently attached to it, and great was the veneration in which it was held both by priests and people.

Selden observes of salt that it "was used in all sacrifices by express command of the true God; the salt of the covenant in Holy Writ; the religion of the salt, set first, and last taken away, as a symbol of perpetual friendship; that in Homer the phrase is used 'he sprinkled it with divine salt.' In the title of *agnites*, the cleanser, given it by Lycophron, you shall see apparent and apt testimony of its having had a most respected and divinely honoured name."†

* And with these beans I me and mine redeem.

† Notes on the Polyolbion, Song xi.

For several centuries salt has been used in the services of the Latin Church; in the performance of baptism, no less than in the consecration of holy water. In the former instance the "parva mica" is taken from a gold or silver box and deposited in the child's mouth, the priest observing the while, "Receive the salt of wisdom, and may it be a propitiation to thee for eternal life."

In a symbolical and metaphorical sense salt is frequently used by profane and sacred writers. At a very remote period it was regarded as an emblem of extreme sterility, while kings and conquerors like Abimelech, after the sacking of a city, have scattered salt over it.* Grounds have also been sown with salt to render them barren.† In the prophetic denunciation against Moab, "Salt-pits and a perpetual desolation" form one of the curses uttered against that land.‡ During the December of 1596 a popular tumult occurred in Edinburgh. On the 1st January following, what are described as ferocious brigands thronged the thoroughfares, gloating over the fell prospect before them, and ready when the sovereign (King James) gave the word to "sack, raze, and plough the capital, and sow it with salt."§

Some eminent writers of antiquity touch disparagingly upon what they term salt soils. Virgil, for example, reprobates a salt soil as occasioning the deterioration of fruit trees, and as one admitting of no amelioration even from the plough. Pliny considers every place in which salt is discovered as destructive to vegetation. Modern science, however, has set these questions at rest, as it demonstrates the futility, not to say absurdity, of such opinions, no matter from how high a source they emanate. The water of salt springs, sea sand, and even refuse salt, is now frequently and advantageously employed as manure in this and other countries. Indeed, ever since the time of Henry I. salt has been used as an artificial stimulant to the earth, especially on the Cornish coast, and with marked advantage. Naturally, in such cases, it needs to be dispensed with careful discrimination; for if not judiciously applied it would become more injurious than beneficial; nay, prove a potent poison to vegetables. The Egyptians, apparently, had such an abhorrence of salt that, according to Plutarch, they regarded it as the spittle or foam of the giant Typhon, the dreaded enemy of their cherished divinities.

Salt has long been regarded as emblematic of wit, wisdom, and intelligence. Hence the "Attic salt" and the ceremony of

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* *Vide* Judges ix. 45. † Deut. xxix. 23. ‡ Zephaniah ii. 9.
§ Woodrow's Life of Bruce, prefixed to Bruce's Sermons. Edin. 1843.

"Depositio," among the scholars of Strasburg University, so late as two centuries ago. Thus observes one of the professors of that famous seat of learning: "With regard to the ceremony of salt, the sentiments and opinions, both of divines and philosophers, concur in making salt the emblem of wisdom or learning."* Eternity and immortality have likewise been symbolised by it. "The devil," quaintly remarks an old divine, "loveth no salt in his meat, for that is a sign of eternity."† Salt has also been regarded as typical of hospitality and fidelity. The partaking of bread and salt has from time immemorial been used as a form of oath. "The "Covenant of salt" has not alone been confined to the Jews. It is still adopted by the Arabs, and was even practised in England as late as the sixteenth century. Accordingly, Decker the dramatist makes one of his characters say:—

> He tooke bread and salt by this light, that he would
> Never open his lips.

Some of the Tartar tribes are wont, when they set out on a journey, to carry a portion of salt in a tiny bag attached to their saddle, as a solace for themselves and as an offering and pledge of friendship to those they may encounter on their way. The Muscovites considered that a prince could not manifest a stronger mark of affection than by sending salt from his own table to his friends; while Pennant asserts that "a tune called *Gosteg yr Halen*, or the prelude of the salt, was invariably played whenever the salt cellar was placed before King Edward's knights at his Round Table."‡

In England important festivals were formerly held in honour of salt. Every Ascension Day the old inhabitants of Nantwich made great rejoicings with this object, when hymns of thanksgiving were sung for "the blessing of the brine." On these occasions one particular brine pit, held in especial veneration, was bedecked with boughs of trees and garlands of flowers, around which lads and lasses indulged in the reveries of song and dance. The triennial ceremony at Eton, called *Montem*, held on Whit-Tuesday, was, however, the most remarkable. Salt-bearers and scouts, attired in motley-coloured but expensive silk costumes, preceded the Etonian procession, and collected the usual contributions in money. Each person carried salt in a handkerchief, from which the passing traveller had to take a pinch ere he paid his dues. Now and again these scouts extended their pleasantries beyond all legitimate

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* Dyas Orationum de Ritu Depositionis.

† Reginald Scot's (citing Boden) Discourse upon Angels and Devils.

‡ Tour of Wales.

limits, for upon encountering any boorish rustic who wanted anything in return for the trifle he had bestowed, they would directly fill his mouth with salt, to the infinite merriment of the spectators. When the procession reached Salt Hill the Etonians solemnly paraded round its base, when a religious ceremony was performed by a priest. Large offerings of money were then collected, which became the property of the "captain" or "senior of the collegers," at the time. The presence of royalty frequently graced the *Montem*, thereby giving prestige to, and enhancing the value of, that

Long-famed triennial fête.

On Whit-Tuesday, 1790, according to authoritative records, five hundred pounds were collected at the festival, their majesties subscribing fifty guineas each. The *Montem* is said to have originated with the monks for the purpose of raising contributions by the sale of salt. From the profits on this commodity Salt Hill and other valuable lands became the property of the college.

The superstitious observances with regard to salt are numerous, some of which obtain, at the present day, even among ourselves. Formerly no person would engage in any important undertaking, or remove from one house to another, without previously putting salt in his pockets. The very mendicant in the streets was independent enough to scornfully refuse charity if it were not courteously prefaced by an offering of salt. In certain parishes of Scotland the farmers were accustomed to place salt in the first milk a cow had after calving, when proffered to any body to drink, in order to prevent "skaith" (harm), should the individual happen not to be "canny." In Ireland it was customary for women and girls to sprinkle salt, mixed with flour, upon all persons when appointed to public offices; and before seed was sown in the ground the mistress of the household invariably scattered salt over it. The practice of laying a plate of salt on a dead body widely prevailed in the United Kingdom, and, indeed, is not yet extinct. This I have myself observed.

Two young ladies of my acquaintance, who certainly are not superstitious in other respects, informed me on the morning of New Year's Day, that about a quarter to twelve the previous night they placed a portion of salt and bread crumbs upon the window sill, and then took a stroll up and down the street in which they reside. Upon their return, just at midnight, they at once removed the salt and bread into their chamber. Having inquired what motive they had for performing so silly an act, I was met with the pithy rejoinder, "Because it is *lucky!*"

The spilling of salt, or the over-turning of the salt-cellar has,

from the earliest times, been regarded with the most superstitious dread, either as presaging some impending calamity to the unlucky individual himself, or as a sure sign of some fell casualty about to happen to the family:—

Salinum in mensa evertatur—omniosum est.

Such ill-luck is considered to be partially or wholly averted by throwing a little of the fallen salt over the shoulder into the fire:—

Mollivit aversus Penates,
Farre pio, saliente mica.

Sometimes, however, wine poured on the lap was used as an incantation, and was regarded as infallible. Nathaniel Home enumerates, among bad omens, the falling of salt towards a person seated at table. He observes, "How common it is for people to account it a sign of ill-luck to have the salt-cellar to be overturned, the salt falling towards them."* And Bishop Hall, speaking of the superstitious man, remarks, "If the salt fall towards him he looks pale and red, and is not quiet till one of the waiters have poured wine on his lappe."†

A rare old English ballad professes to explain the cause of this unluckly omen:—

We'll tell you the reason
Why spilling of salt
Is esteemed such a fault,
Because it doth everything season.

Th' antiques did opine,
'Twas of friendship a sign,
So serv'd it to guests in decorum,
And thought love decay'd,
When the negligent maid
Let the salt-cellar tumble before them.

Of all nationalities possibly the Germans have the greatest abhorrence of spilling salt. This peculiarity might be regarded partially as a religious superstition. Leonardo da Vinci, in his grand masterpiece, "The Last Supper," represents Judas as having overturned the salt-cellar; perhaps, to signify, as has been plausibly suggested, the reluctance of Iscariot to share salt with one against whom violence was intended. It is somewhat remarkable to find old scholars and divines like Dr. Horne and Bishop Hall avowedly favouring such popular superstitions. Even at this day it is regarded by many persons, who ought to know better, as unlucky to help another to salt. Hence the apophthegm, "If you help me to salt, you help me to sorrow." S. Phillips Day.

* Dæmonology. † Characters of Vertues and Vices.

MARKETS OF THE MONTH.

TAKING a retrospective view of the past year, in almost every department of the food trade, prices have experienced a decided rise since 1870. In many branches of provisions the rise has been considerable, and though we have the advantage of bread being tolerably cheap, still, in consequence of the increased price of most things, the poorer classes will find it harder to make both ends meet in the winter of 1871-72, than in the winter of 1870-71. Wages may be quoted almost universally higher, perhaps; but it is rarely that the rise in price of wages is of sufficient extent to counterbalance the increased cost of living, when it is augmented by an almost uniform rise in the price of every necessary of life, as has been the case during the past twelve months. The value of wool has risen 30 or 40 per cent. during the past year. There has been a gradual rise, too, in the price of sugar during the latter part of the year, which rise has been maintained, and the market is still firm. Prices in the coffee market also are higher, and tea is reported as firm at former quotations. The cotton market has lately shown great activity, and an advance on most grades has been established, in consequence of a belief that the American crop would prove to be under three and a-half million bales. There has also, during the past year, been a rise of from 1*l.* to 2*l.* per ton in the price of iron, and there has been a considerable advance in the price of most metals since 1870.

The flour market, with the exception of occasional slight fluctuations, has been firm. The meat market has during the past two months exhibited a downward tendency, and prices—retail prices even—have ruled in favour of buyers. Still meat is very dear; the marbled sirloins, with the lean beautifully streaked with fat, a sight which epicures love to behold, command higher prices than they did last year. Eggs lately were at their dearest: they have rapidly fallen, and will fall to 8*s.* or 9*s.* per hundred; which price they will maintain until after Shrovetide. Butter and bacon and hams remain unchanged at prices which may favourably compare with last year's quotations. The fish market at this season does not command so much attention as the others, the only feature worthy of notice being that Norway salmon entered an appearance about

Christmas-time at from 4*s.* to 5*s.* per lb., and that lobsters have lately been unusually scarce, fetching 4*s.* to 6*s.* each.

The poultry market is the chief attraction at Christmas, where the monster turkey is the admired of all admirers, and hangs in lordly majesty above regiments of geese enveloped in luscious yellow fat. Ducks such as are only seen at Christmas-time appear in battalions, and capons in companies. It is difficult to state the prices obtained, as everything depended upon condition. Large turkeys, if fat and well-conditioned, were sold for 1*s.* 6*d.* per lb., and geese ranged from 8*s.* to 12*s.* each; ducks from 3*s.* to 5*s.* each; and fowls, pullets, and capons are dearer than they were before Christmas. Pheasants, "the jewelled exotics of our woods," are worth 4*s.* each; partridges, young birds, 2*s.* 6*d.*; grouse are out of the reckoning now; woodcocks, 4*s.*; snipes, 1*s.* 6*d.*; plovers, 1*s.* to 1*s.* 6*d.*; hares, 4*s.*; wild ducks, 2*s.* 6*d.* to 3*s.* 6*d.*; in fact, everything in the game and poultry way is dearer than it was. It is always so at Christmas-time, and for a certain period afterwards. Prices, however, are no higher than they were last year. Oranges have been in much demand, and also nuts: best St. Michael's, 19*s.* 6*d.* to 22*s.* 6*d.* per box; Valencias, from 14*s.* to 17*s.* 6*d.* per case; Palermo, from 7*s.* to 8*s.* 6*d.* per box. Messina lemons, from 18*s.* to 30*s.* per case; Malaga, from 35*s.* to 40*s.* per case, or 9*s.* per hundred; Barcelona nuts, 16*s.* per bushel; Spanish, 14*s.*; Brazils, 12*s.* to 18*s.*; chesnuts, 7*s.* to 10*s.*; walnuts, 14*s.* to to 22*s.*; almonds, 20*s.*; Lapucai nuts, 1*s.* 2*d.* per lb.; Kent cobs, 9*d.* per lb.; cocoanuts, from 4*d.* to 8*d.* each. Almeria grapes, 1*s.* 6*d.* per lb.; hothouse grapes, 5*s.* to 6*s.*; muscats, 7*s.* to 8*s.* per lb.; English pines, 7*s.* to 8*s.* per lb.; Tangerein and Mandarin oranges, 8*s.* to 10*s.* per hundred. Apples, as I anticipated, are much dearer: good cooking, 11*s.* to 13*s.* per bushel. Muscatel raisins, from 4*l.* 10*s.* to 5*l.* per cwt.; Jordan almonds, from 1*s.* 2*d.* to 2*s.* 2*d.* per lb.; figs, eleme, layers, from 48*s.* to 75*s.* per cwt.; dates, Tafilat, 9*d.* per lb.; French plums in bottles from 3*s.* to 10*s.* 6*d.* according to size and brand.

Forced vegetables, too, are now in market. Imitation new potatoes, 5*d.* per lb.; sea kale, from 1*s.* 6*d.* to 3*s.* per bundle; asparagus, 9*s.* to 10*s.* per bundle; cucumbers from 2*s.* to 3*s.* each, but naturally very small. Cauliflowers are dear; fair sized ones, 3*d.* to 4*d.* each. French lettuce and endive and forced rhubarb are also to be purchased in Covent Garden. Potatoes are slightly dearer, first-class qualities fetching 6*l.* to 6*l.* 10*s.* per ton. Coals are dearer than they were last year; best coal has gone up in 1871 to the extent of from 4*s.* 6*d.* to 5*s.* 6*d.*, and inferior kinds from 4*s.* 3*d.*

to 5*s.* 9*d.* per ton. All the leading manufacturers of earthenware have found it necessary lately to raise their prices all round. This, we may, I think, attribute to the "Nine hours movement." All things, are undoubtedly, generally speaking, dearer than they were this time last year.

January 12th, 1872. P. L. H.

CORRESPONDENCE.

SOUP.

To the Editor of the "Food Journal."

Sir,—In your Journal of the 1st inst. we notice an article on soup, containing statements which are not correct. Your correspondent, "A Cook," states that tinned soups are not artistically prepared, and consequently are seldom experimented upon more than once. Had "A Cook" studied his subject, he must have been aware that there is a constantly increasing demand, both at home and abroad, for preserved soup, and that the best tinned soup cannot be distinguished from that made at home on the most approved method. "A Cook" might also find that preparing a first-class soup, as he proposes, is not the very profitable business he would appear to anticipate.

When the public wishes a first-class article of any kind, it can generally be obtained by paying a fair price. Cheap soups in tins, like other cheap goods, are found dearest and least satisfactory in the end. M.

Aberdeen, 10th January, 1872.

How to Cook Vegetables.—It is often observed that a meal from vegetables is not satisfying. I have found it frequently happen that the persons who thus objected did not know even how to boil a vegetable. The rule is simple, and should never be forgotten. Every kind of vegetable intended to be served whole should, when put to boil, be placed at once in boiling water; and this applies especially to potatoes and vegetables from which the outer cover has been removed. Now it often happens that potatoes, etc., are, to save time, placed in cold water, and left to boil gradually. It is just this which allows the nutritious matter to escape, and renders the meal unsatisfying. When, on the contrary, the water boils from the moment that the vegetable is immersed in it, the albumen is partially coagulated near the surface, and serves to retain the virtue of the vegetable. The reverse is, of course, the rule for making soup, or any dish from which the water will not be drained. By placing the vegetables in cold water the albumen is slowly dissolved, and actually mixes with the water—a process most necessary for the production of nutritious soup.—*The Farmer.*

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

MOCK VENISON OF CORNED BEEF.

Cut the beef in thin slices, and freshen it by soaking for three or four hours in tepid water. When sufficiently fresh, lay the slices on a gridiron, and heat through quickly. Make a gravy of drawn butter; add a little pepper, and the yolk of an egg chopped fine, and pour over the meat; or butter, pepper, and salt may be used, like beefsteak. This will be found a savoury dish when only salt meat can be procured, but it is better with fresh beef.

FISH CAKE.

Take the remains of any cold fish, 1 onion, 1 faggot of sweet herbs; salt and pepper to taste, 1 pint of water, equal quantities of bread crumbs and cold potatoes, ½ teaspoonful of parsley, 1 egg, and bread crumbs. Pick the meat from the bones of the fish, which latter put, with the head and fins, into a stewpan with the water; add pepper and salt, the onion and herbs, and stew slowly for gravy for about two hours; chop the fish fine, and mix it well with bread crumbs and cold potatoes, adding the parsley and seasoning; make the whole into a cake with the white of an egg, brush it over with an egg, cover with bread crumbs, and fry of a light brown; strain the gravy, pour it over, and stew gently for fifteen minutes, stirring it carefully once or twice. Serve hot, and garnish with slices of lemon and parsley.

SCOTCH EGGS.

Boil 4 or 5 eggs hard, take only the shells off, and roll them completely up in a fine relishing forcemeat, in which scraped ham or chopped anchovies have a due proportion. Fry them a slight brown, and serve with a good gravy in the dish.

ALMOND PUDDING.

Pound ¼ lb. of sweet almonds fine, mix them with 2 ozs. of butter melted in ½ pint of good milk or cream, 2 ozs. loaf sugar pounded, ½ glass of white wine, the yolks of 2 eggs and white of 1, with ½ a spoonful of flour. Mix all well together and boil in a mould, well buttered or floured, for 23 minutes.

TO DRESS MACARONI.

Boil it until it is tender, and do not use too much. Strain it off, and put to it grated cheese, pepper, and a little cream. Boil them all together, until the cheese is stewed quite soft, then put it on a dish and brown it.

NOTES OF THE MONTH.

The Neapolitan journals state that 550,000 kilogrammes of *capitone* were imported into Naples during the Christmas week. The *capitone* is a large, greasy, and most repulsive looking eel, brought principally from Comacchio, not far from the Adriatic. The lagoon in which it is situate is 140 miles in circumference, and here is carried on an extensive pisciculture, from which about a million of pounds of *capitone* are taken annually for the supply of our Christmas tables. What the baron of beef or the boar's head is to the Englishman, the *capitone* is to the Italian. It is more than a luxury, it is a positive necessity; even the poorest man must have it at all costs, and they are not trifling at times. For many years there has not been so large a quantity imported into Naples as this year, and possibly this fact may account for the great tranquillity which has prevailed, for in its presence all party passions are stilled, and, as one of our journals observes, men of the extreme Right and extreme Left will readily clasp hands over this dish.—*Times.*

We have received from Prof. Gulliver, F.R.S., the hon. secretary of the East Kent Natural History Society, a most interesting account of a recent meeting of that society, in which some very valuable information was given on certain fishes which are but little known and cared for. As the proceedings of the whole evening would take up too much of our columns, we select (from the *Kentish Gazette*) the remarks which were made on the edible sharks, or what are known as "Canterbury gurnets":—"Risso, the ichthyologist of Nice, says that the porbeagle is good eating, and thus much used and esteemed by the people of the Mediterranean. Some of the smaller members of the shark family afford an almost constant and very bountiful supply of valuable food to the poor people of the Shetlands and Hebrides and other parts, and at Canterbury may occasionally be seen loads of skinned fresh fish, each about 18 in. long and 2 in. thick. They are commonly brought up Northgate into the city, where they are sold, under the fictitious name of 'gurnets,' as cheap food, which is said to be agreeable and wholesome. They belong to a small species of shark, known at Hastings as Robin Hursts, elsewhere as rough Hounds, and to naturalists as the small spotted Dog-fish—*Scyllium canicula.* At Canterbury these fish always arrive decapitated, gutted, and skinned, probably to conceal what they really are, and to serve the cabinet-makers, who are said to use the skins to smooth down or polish the surface of their work. This fish, under the name of *morghi*, is commonly used in the west of Cornwall for soup, which is much liked by the natives. The Picked Dog-fish or Hoe (*Spinax acanthias*), so abundant as to be contemptuously rejected on the Sussex coast, is considered valuable as diet in the Scottish islands, where these fish are dried for this use, and a large and profitable quantity of oil obtained from their livers; and in the west of England the same fish is used and much valued as excellent aliment, both fresh and salted, by the fishermen and others. The smooth-hooped or skate-toothed Shark (*Mustela lævis*), a fish about a yard long, is esteemed as delicate food in the Hebrides. And indeed, when we consider the constant abundance of food and oil for man offered by the small sharks, it seems lamentable that they are so much despised and wasted on most parts of our coasts."

NOTICES OF BOOKS.

"The Garden." Edited by William Robinson.—We congratulate the lovers of horticultural literature (and their numbers increase rapidly) on the accession of this new periodical, which will go far to induce a real taste for gardening in many who have hitherto not been impressed with its charms. The illustrations are admirable, and have a piquancy and individuality which are sure to meet with great favour. Mr. Robinson aims, we are glad to see, at bringing gardens to us in our cities, and enabling everybody, however humble, to cultivate a few flowers at an expense and trouble which are merely nominal when compared with the exceeding pleasure and good to be derived from them. When we see what is done in Paris and other cities, we may hope that London will soon be brightened up a little more, and even Leicester Square be raised by the magic aid of flowers and shrubs to a respectability amongst squares which it has hitherto never attained.

"Free Trade in Sugar." By J. B. Smith, Esq., M.P.—In this little pamphlet Mr. Smith hits the Customs Department hard, and especially that part of it which is engaged in sampling the sugars. It is singular that, amidst all the reformations that have been introduced as regards general duties, sugar is the only article on which classified duties are levied in this country. The Customs profess to levy the duty on the quantity of extractable crystallisable saccharine matter which it contains, and which, they say, can be ascertained by its colour. Mr. Smith shows the utter delusion of this standard, and tells us that the revenue has suffered, in two years, the loss of 446,374*l.*, in addition to the costly expenditure of collecting the duties by this system. The only object of its continuance appears to be for the benefit of the piece makers, without whom the British consumer would be far better off, as they simply force *spoilt* sugars into the market to fill their own pockets, and in this unfair monopoly they are upheld by the present laws.

"Report of the Sanitary Committee of the Commissioners of Sewers on Spurious Tea."—After having perused this brief epitome of the proceedings which the Commissioners instituted against the importers of rotten tea, we scarcely know which feeling is uppermost in our minds, admiration at the ingenuity with which our laws have been framed, so as to give the least possible protection to the public and the greatest possible latitude to thieves and adulterators, or hopelessness at the apparent impossibility of ever effecting a reform. The minister who attempts it will have an Augæan task before him; and he will have to commence it with an amount of determination which, we fear, does not belong to the present legislature. One of the most surprising things is that, in the face of official statements, such as are contained in this pamphlet, a new periodical has actually ventured to question whether there really is adulteration of our articles of consumption, or whether it is a *canard*, invented simply to create a sensation.

THE

FOOD JOURNAL.

SCHOOLING IN ITS BEARING ON HOUSEHOLD WORK.

HOUSEHOLD economy depends not only on great things, but concerns itself with all kinds of odds and ends—with the scraps that may be made serviceable inside the house and outside the house, with all the many and sundry uses of which every object is capable during its working life, and in every part of it. As a cocoa palm can be turned to all kinds of use in a tropical hamlet, so every joint of meat that comes into a house has a long story of rightful service; but unfortunately it is not always the moral uses, which are looked after and turned to profit by the good housewife, as those of material objects. Her dripping is worked up in the house in pleasant shapes, and none but the waste fat goes out of it, and is then sold for the behoof of her pocket; but how about the chubby-cheeked urchins who have eaten the dripping toast with relish; how about the comely girls? Much of their schooling goes to waste with a carelessness that would set a sharp tongue wagging, if it was shown in the kitchen.

Even in a workman's house, where everything is carefully bestowed by the wife (and it is hard work to do so), that which has an immediate money price is more regarded than that which has not. A woman lays out her week's money from the salary, the shop till or the wages, with the most careful eye to the greatest benefit, even from the uttermost farthing. She looks, indeed, that Robert and Mary shall have all the lessons that are bargained for in the school teaching, and shall not be cheated into extra holidays for school children and school teachers; and, when the satchel is brought home, she cares whether the books are neat, torn, or dogseared, but she has no weight or measure for that which is brought back in the knowledge-box, and which ought to be made to bear fruit in the house, though she understands what has been done in the sewing-class.

She has an unpleasant surmise, and so has the father, that though folks cannot well get on without reading and writing, that

which is taught in school is of small practical worth in the boy's aftertrade or calling. This must be so, because schoolmastership in England has been very little of a craft up to this time, and the schoolmaster has had as little thought of what he ought to teach as the children or fathers of what is to be learnt. Hence the neglect of so many common and needful things which can be made serviceable in daily life. From want of knowledge of their remote application, many branches of teaching that have an immediate practical bearing on the habits of the child are treated as outside matters or accomplishments; and too often the moral uses of all these things have been left out of sight.

Singing is not only good for psalm-singing, but it is good for training and discipline; and yet, although its value is so well seen in the infant school, it seldom gets beyond it. There can, nevertheless, be no reasonable doubt that, according to the nature of the human mind, singing acts, not only as an art, but acts in its public exercise by bringing together, in concert and harmony, a number of minds unconscious of the influence. Hence results a training of one portion of the faculties of the mind to common and united action for order, the basis of co-operation, whether in the senate or the political association, the workshop, the trades union, or the household.

Drill is more material in its operation; it works directly on the body and the limbs, exercising a number of muscles; while singing brings into play but few of these, though acting largely on the lungs, and also on the nervous system. The special discipline of the drill on individual and concerted action must be very valuable.

Drawing, again, put off to the last, should begin with the youngest child, and should always include some drawing from natural objects—a subject on which great ignorance prevails. It is well to offer these remarks, because very few, and particularly amongst the humblest classes, have ever been taught drawing as an early educational process. It embraces the drawing with chalk or charcoal, and not necessarily with pencil and paper, of common objects, apples, carrots, potatoes, of elementary forms of lines, and circles, and letters, which become a part of drawing. They put William Sykes in the way of doing to some profit what it is in his nature to do on a park paling or barn door, to the detriment of their appearance.

All these matters of drawing, drill, and singing, if duly applied in the schooling of earliest childhood, will powerfully help in forming habits of value in the household and throughout life. That first law of Heaven, Order, is especially cultivated, and comes into the house-

hold wants at every hour with boy or girl. To go a little higher, there is many a tradesman's household which begins the morning in dirt, and keeps to it. True, the meat is of good quality, of fair price, and well cooked; but there is wanting the higher enjoyment of real comfort. The table is perpetually untidy, and the homeliness that attaches to each inmate is that of the pigstye.

This may not be altogether the fault of the housewife, who may yearn for tidiness; but her own eye and hand are untrained, nor have her husband or the children better habits, mental or muscular. In the first place, they are perhaps ungainly. She or her maid throws down the knives and forks after a fashion, and there is an accustomed place for everybody; but the organisation is that of individual disorder, and by the end of the meal a clean table cloth, that was badly laid at first, is unfit for any invited guest. Tom's dirty knife has been here, and Susan's dirty spoon has been there, and so it is throughout the day at bed and board. The poor woman works hard, but when she makes the beds she leaves them as untidy as she found them, and does not put by the things that are left strewn about the floor, for which there is no nail, and which nobody would hang up, if there was one.

The household is the groundwork, after all, of teaching. It begins with the mother as the first teacher, as the earliest and greatest mistress of thought and speech, and the school can never be more than a helpmate, unless to a widowed home. The school with all its clergymen, its bible readings, its young lady Sunday teachers, and its elderly lady patronesses and scolders, cannot teach morality and religion as the household ought to do, and seldom replaces or displaces its good or evil teaching. The school must nevertheless make its way into the house, and make its way felt, and that is by acting with it, by going with the grain, not against it.

It is in the lower rather than the higher branches of training that this harmony of action most truly consists. It is a very good thing for the school to send home Tom with his copy book, but a better still if he can be sent home so as to give as little trouble as may be, and to be helpful as an inmate. Now, an untidy child makes trouble and work, and the hands are busy in scattering dirt and slovenliness, which should otherwise be applied to make more comforts. The schoolmaster or mistress may set the child to read out of the spelling book lessons on the worth of order, cleanliness, and tidiness, but these never tell like the ingrained habits, which are the steady result of slow and constant practice.

Drawing by training the eye to observation improves one faculty,

and by training the hand to the careful record of observation it cultivates order. The child who is taught to know what a straight line is and what are parallel lines, can judge of straightness and parallelism, but not without training. The girl so taught will make none the worse stitcher and sewer, for she will better understand common work, and be readier at fine work. She will be earlier prepared for cutting out materials and for a knowledge of form. She will lay the tablecloth and set the things straighter and better. She will clean the room in a more orderly way and so will she make the beds. In the kitchen she will cut bread carefully, and vegetables straight and square enough to satisfy all the philosophy of Laputa, and with practical comfort. She will make what she has to wear look better and more tidy, and having a sharp eye for rags and tears, she will keep her clothes more carefully. She will perform less work in doing disorderly things twice over, and the more work in effecting what is truly useful.

The world is slow at perceiving that a girl thus taught may make a better housemaid and the better do housework. A great difficulty in large schools is that they cannot be made good training places for cooking and household work, but their very constitution gives them advantages for *maturing* those habits which are the groundwork on which special knowledge is to be applied.

This knowledge of childhood, this habitual and instinctive practice, is of service through life. The boy who is made more orderly at home becomes more useful to himself and others throughout his career. It is a great qualification to avoid giving trouble to others, because it is emancipation from dependence, and a step towards independence. He who wants much, particularly of small things, cannot well be independent. Cobbett was quite right in his empiric rules for independence and in recommending economy of servants, for he is the greatest master who is master of himself rather than of many servants.

What a sight is that of soldiers encamping! Each man suffices for himself and gives no trouble to others, but helps all. There is a regular and systematic co-operation, tents arise on the moorland, food is being cooked, and in a short time comfort reigns around with a feeling of security, and at night each man sleeps under canvas as soundly as though no enemy were nigh. This may be seen even with well trained Tartars. They come upon the ground, the horses and camels are hobbled, the girls go out to seek water, the women make bread in their kneading troughs, the boys gather wood, and a wandering horde has by sundown become a settled community.

In all schools there should be so much of humdrum physical work as will full up time, and not strain the brain, and thus the mental profit will be the greater. The workshop succeeds the household, and the boy who has sat down to a well-ordered dinner table at home, and slept in a tidy bedroom, will be steady in the factory, and will keep his tools and bench neatly. Each thing will be in its place when wanted, and be put away when not wanted; so the time of himself and others will be saved. His apprenticeship may not be really shorter, but it will lead more rapidly to proficiency. He will have more fellowship, will be less ready to grumble or quarrel with his shopmates, and more eager to help.

These are qualities on which reading and writing will not sit worse but better; and yet, instead of engaging all time, they may be taught in half-time. Indeed, it is not the time given to learning with which we ought truly to be concerned, but with the real result obtained. It is like fattening an ox, where it is of no good reckoning up the pounds of cake put into him, but the pounds of meat and fat which have been grown on his carcase; the proof of the pudding is in the eating, and the proof of schooling is in what is really learned.

We are still far from having a sufficient supply and degree of teaching power to get the full effect, and we are obliged to put one teacher to scores of children. It is good, then, to employ part of the school time in those pursuits where one teacher can deal with many; this is particularly the case in drill, for one helps another, and a fault shows itself at once in what ought to be the straight line. In music this is attainable to a great degree, and it can also be effected with drawing, for one master can set the class going; still, with drawing, much depends on the faults being pointed out to each learner.

In fact the whole matter resolves itself into obtaining practical results from practical objects, availing ourselves of the small uses even of great things, and making our charity begin at home. Teaching begins with the feeding of the baby, for the mother teaches it even to feed, and teaching begins at home. It should be combined with the home and brought back to the home through life. The boy should become sailorly, workmanlike, and soldierly, and the girl thrifty and a good housewife.

HYDE CLARKE.

A SAMPLE of brandy has been sent to us by Messrs. W. Jackson & Co., of Dockhead, with a request for an analysis. As we are always anxious to give credit where credit is due, we have much pleasure in stating that our analyst has reported it to be an excellent sample, of full strength, and free from any adulteration. We accordingly give the article our unqualified approbation.

COOKERY PAPERS.

No. 8.—FISH—(Continued).

Some species of fish are more digestible than others—as, for instance, haddock, whiting, smelts, cod, soles, turbot, and such-like—than salmon, pilchards, sprats, eels, and many other fish the characteristic of which is the oily or fatty nature of their flesh. But in cod-fish and some others the liver is the only organ which contains any oily or fatty matter. Rich fish are apt to disturb the stomach and prove stimulant to the general system. Thirst and an uneasy feeling are frequently produced by them in certain constitutions; and this has led to drinking spirits with this class of food. Hence the proverb "brandy is the Latin for fish." There appears to be a generally received opinion that crimped fish is better than that which is not crimped—that it keeps longer, is firmer, and has a pleasanter flavour. It certainly commands a higher price, and so universally accepted an opinion must, I think, have some foundation in fact. Nevertheless, I would suggest that much of the virtue which is attributed to crimped fish arises from the fact that it is seldom that any but the best fish of its kind is crimped. Hence I would look upon the crimping more as a brand or trade-mark than in itself productive of any good results. Crimping is calculated to facilitate the cooking of large pieces of fish; it allows the water to operate upon a larger surface, and the heat more equally and readily to radiate through all parts at once. Cod-fish, though more digestible than salmon, is not so much so as haddock or whiting, which has been termed the "chicken of the sea." The sole is distinguished for its tenderness, delicacy, and easy digestibility. Boiled sole is more suitable to a weak stomach than fried sole All fish when boiled is more digestible than when fried. The gelatinous skin of the turbot is especially unfit for delicate stomachs. "By drying, salting, smoking, and pickling, the digestibility of fish is greatly impaired, though in some cases their savoury, stimulating, and even nutritive properties may be augmented."

Lobsters and crabs have been known to produce violent colic, nausea, giddiness, depression, and nettle-rash, these effects depending upon some peculiar susceptibility of particular persons. Lobsters are frequently sold insufficiently boiled, and in this state they are not nearly so wholesome as if thoroughly cooked. "Raw

oysters are more digestible than cooked ones, because the heat coagulates and hardens the albumen and corrugates the fibrine which in this way are less easily dissolved by the gastric juices." Raw oysters rarely disagree even with convalescents and dyspeptics, though there are, of course, exceptions to the rule. A medical man states—"They do not agree with persons who are subject to indigestion, and gouty and dyspeptic persons are often violently disordered by them. They are more wholesome to such persons when well stewed." Another writer, in a treatise on diet, states, that, "when eaten cold they are frequently distressing to weak stomachs." Oysters have been known to bring on convulsions when eaten by women soon after confinement. Many of the sauces eaten with fish are very indigestible compositions, and so the fish itself is frequently charged with ill-effects which are solely due to the sauce. Oyster sauce is too often made so badly that both sauce and oysters are indigestible. The skin of the eel is frightfully indigestible, and was at one time used for making size. Invalids should eat all fish boiled, not fried; and oily fishes may always be considered more difficult of digestion than others. The flesh of the male fish, especially of the salmon and herring, is better eating than that of the female. The flesh of fish when out of season is unwholesome, and productive of much evil; it will remain flabby, semi-transparent, and bluish, after being cooked, and is in its greatest perfection for food at the period of the ripening of the milt or roe, because after the fish has spawned it is out of condition, and is soft, flabby, and inferior in flavour. There is a white curdy matter, very plainly seen between the flakes of fresh-boiled fish, which imparts much flavour to the fish. The excellence of the salmon at Killarney, broiled over an arbutus fire, or cooked on arbutus skewers, is doubtless due to the presence of a large quantity of this curdy substance, the fish being cooked as soon as caught. For this matter, which is defined as "a film of albumen produced by the coagulation of the serous juices intervening between the muscular layers," evaporates rapidly after the fish is dead; therefore fish are eaten in perfection only directly after they are caught. Though not apparently visible, because of the close texture of the flesh of some fish, its presence and absence has nevertheless, I think, much to do with the flavour of all kinds of fish, and is undoubtedly most *prononcé* when perfectly fresh. Hence it is somewhat inconsistently asserted by some culinary artists that a cod-fish, or a turbot, or skate, are all the better for being kept a day or two after they are caught. I must dissent from such an opinion. The serous juices, of which

this curd is the tasty evidence, undoubtedly constitute the nourishing properties of fish. Meat kept too long most certainly loses the major portion of its nourishing qualities, although its tenderness is augmented; so with fish—though still wholesome, it has lost its serous juices, and is no longer so nourishing or of so good a flavour as when quite fresh, though it may be more tender. All cookery books advise the use of fresh meat in the making of soups, beef-tea, etc., because the longer meat is kept, so much the more its nourishing property is diminished. Hence, arguing from the same premises, the fresher fish is, by so much the more are its nourishing properties present. And this brings me to another part of my subject. It is, I think, in the present day an undisputed fact that a fish diet is not, comparatively speaking, a nutritive one. Fish is not so nourishing as meat, though there is strong presumptive evidence that it possesses no inconsiderable nutritive qualities; for when boiled down it produces at least a gelatinous substance. Dr. Kitchener says—"Shellfish, from approaching to the nature of animal jelly, are the most nutritious, but not always the most easily digested." Fish is less satisfying to the appetite than meat, poultry, or game, and, as it contains a larger proportion of water, it is obviously less nourishing. On the other hand, a medical man states that he has known several instances of persons who felt no weakness from a Lent diet, composed almost entirely of fish; and further, that there are several instances of villages inhabited by fishermen, who live almost exclusively on a fish diet, in whom no diminution of health or vigour appears. I have myself, when discoursing with fishermen on this point, been answered: "The fish transferred direct from the net to the kettle is as different, as regards nourishing properties, from the fish one, two, or three days old, which is purchased in our markets and fishmongers' shops, as chalk from cheese." A fish diet, however, has beensaid to produce or augment skin diseases, especially leprosy and elephantiasis. There are some fishes which at times have been used without ill-effects as wholesome food, and at others have been productive of the most alarming results. The following, according to Dr. Letheby, are always poisonous: "The yellow-billed sprat (*Clupea thryssa*), the toad, or bladder fish (*Aplodactylus punctatus*, or *Tetradon* of Cuvier), and the grey snapper (*Coracinus fuscus major*); and that being eaten by large fish, not in themselves poisonous, they render them poisonous too, as the Baracosta and various species of perch, the conger eel, dolphin, globe-fish, and many others."

A Cook.

[to be continued.]

FOOD SUPPLY IN ZANZIBAR.

The natives of the eastern coast of Africa, extending over a belt of land more northerly than that occupied by the true Kaffirs, and yet more southerly than the zone which is inhabited by the natives of unmixed Arab descent, have food customs which differ from both races.

The publication of Captain Burton's recent work on Zanzibar, replete as it is with information on all other topics, comprises so many interesting facts with regard to the food supply of the district, that we have no hesitation in drawing our readers' attention to it at some length.

As the list of Zanzibarian fauna and flora is not extensive, so the articles of diet are not numerous. The small monkey *(Cercopithecus griseoviridis)* and a large species of frugivorous bat (probably a *Pteropus)* are pronounced delicious by curious gourmands. The wild boars are pigs left by the Portuguese; strangers, mistaking the position of the tusks, and ignorant of the fact that the true masked hogs are not found in eastern Africa, have confused them with the *Chœropotamus*. The *Antilope Saltiana* is common; its musky flesh resembles that of the rat. The wild duck, mallard, widgeon, snipe, and sand-piper are also plentiful. When fewer ships visited the port, a sandspit near Zanzibar was covered with bay turtle *(Chelone esculenta)*, which the negroes were too indolent or too ignorant to catch. The iguana, since the days of the *Periplus*, has been common. The fish supply is variable as the climate; sometimes it is excellent, at other times none but the poorest will eat it; and there are many species (as, for instance, the green-boned garpikes, *Esocidæ*) which have the reputation of causing stomach pains and vomiting, if not of being actually poisonous. There are also skates, soles (which are small and not prized), and red and grey mullet, excellent in July, August, and September. The "mangrove oyster" is found growing on all the trees of the island, and a small well-flavoured rock oyster, a favourite relish with Europeans, is caught about Chumbi Island. The crustacea are not common on the eastern coast, though large crayfish are frequently found, and the Arabs consider them wholesome for invalids. Captain Burton gives a recipe how to cook these and other crabs, after the fashion of the Slave Coast, and thinks that this may be useful in England

for lobsters, crabs, and crayfish. The meat taken out after boiling is pounded and mixed with peppers and seasoning. It is then restored to the shell, and served "piping hot." Another kind of shellfish, a soft crab, when cooked, seems to melt away, no meat remaining within; a third, also soft, is red, even before being boiled.

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So much for the aboriginal fauna; the domestic animals are very scanty, and few thrive except apes. Cattle brought to Zanzibar die after the first fortnight, unless protected from sun, rain, and dew, and fed with dry fodder. The wet grass given to cattle at Zanzibar leads to the impression, as in the Concan and at Cape Coast Castle, that the grass is poisonous. The Banyans of Zanzibar, Aden, and Maskat, who keep cattle for religious purposes, never sell their beasts, and religiously oppose their being slaughtered. Bullocks cost from $8 to $16, and are generally to be bought. Sheep are principally the black-faced Somali variety with short round knotted tails, which lose fat from rich grazing, but in their own desert country thrive upon an occasional blade of grass growing between the stones. The excessive purity of the air doubtless favours assimilation and digestion, and, as the diet of the desert Arab proves, life under such circumstances can be supported by a minimum of food. The Somali sheep are the cheapest, averaging from $1 to $3. There is also a Mrima race, with rufous, ginger-coloured hairy coats, and lank tails like dogs. Others, again, have a long, massive caudal appendage, like Syrian or Cape wethers. These cost $2 to $5, and are considered a superior article. As a rule, Zanzibar mutton, like that of the Brazil, is much inferior to beef, and presents a great contrast with the celebrated grain-fed mutton of India. Goats' flesh is preferred to mutton in Zanzibar. There, as on the continent, fowls may be bought in every village, the rate being six to twelve for the dollar, for which a few years ago thirty-six were to be obtained. They are lean, from want of proper food, and miserably small, the result of breeding-in; the eggs are like those of pigeons. Yet they might be greatly improved, for the central regions of Africa show splendid birds with huge bodies and the shortest possible legs. Capons are prepared by the blacks of Mayotta and Nosi-bé. Captain Burton asks the sensible question, "How is it that the modern English will eat hens, when their great-grandfathers knew how to combine the flavour of the male with the tenderness of the female bird?" The Muscovy duck, originally from Rio de la Plata, has of late years been naturalised. It is a favourite of the Africans, "who delight in food which gives their

teeth and masticatory apparatus the hardest and the longest labour."

The flora of Zanzibar exhibits a greater range of variety than the fauna. The Arabic saying that the "date and the cocoanut cannot exist together," is literally correct; the palmiferous vegetation of Zanzibar chiefly consists of the cocoa, upon which depends much of its material wealth. The cocoa grows in a broad band around the shore, and on the continent it follows the streams as far as sixty miles inland. This useful tree supplies, besides meat, wines and spirits, syrups and vinegar, cords, mats, strainers, tinder, firewood, houses and palings, boats and sails—briefly, all the wants of barbarous life. Coffee was once tried on the island, but the clove soon killed it; now, not a parcel is raised for sale, for the berry, which was large and flavourless, was not found to keep well.

In the Brazils the richest lands are given to coffee, the next best to sugar, and the worst to cotton and cereals. The Zanzibar coast, from Mombasah to Mozambique, produces small quantities of coffee. Coffee brought from Southern Arabia to Angola by the Jesuits was spread, probably by the agency of birds, to 300 leagues from the coast. It has long been "monkeys' food," but it is now worked by the ex-slaves. The oil palm (*Elæis Guineensis*) is found on the island of Pemba, and at other places near Zanzibar. The late Sayyid planted cinnamon and nutmeg trees, which flourished well on some soils, though the latter takes nine years, it is said, before bearing fruit, and gives trouble. The cacao shrub (chocolate) thrives well on the western coast, but has never been tried in Zanzibar.

The mango, orange, banana, and pineapple are common at Zanzibar, but, with the exception of the banana and plantain, are, of course, all seedlings. Engrafting is not practised, and wall fruit is unknown.

The mango, originally imported from India, and as yet unplanted in the central regions, is of many varieties. These, with care, might rival the famous produce of Bombay; even in their half-wild state the flavour of turpentine, so characteristic of the mango, is hardly perceptible. The cooling, antibilious and antiseptic oranges are plentiful from May to October. Bananas at Zanzibar are of two varieties, red and yellow, but are not remarkable for delicacy of taste. In the highlands of the interior, as Usumbara and Karagwali, the *Musa sapientum* may be considered the staff of life. The plantain, however, of the variety in India called "horse plantain," is a coarse kind, sometimes a foot long, and full of hard black seeds. Europeans fry it in butter. It bears throughout all the year in

Zanzibar, but it is not common in May and June. The pineapple of the New World grows almost wild in every hedgerow and bush, the crown being stuck in the ground and left to its fate, wherever the place may be. The poor in Zanzibar are compelled to eat large quantities of the Fanas, or "Jack" of India, the nuts of which are roasted and eaten with salt. Some Europeans have learnt to relish the evil savour, and all declare the "Jack" to be very wholesome. The breadfruit was introduced from the Seychelles Islands; the young plants, however, were soon uprooted and strewn about the fields.

Almost all English vegetables will grow in the island, but they require shade, and should be planted, as at Bourbon, the Mauritius, and Nicaragua, between rows of cool bananas. Here lettuces, beetroots, carrots, patatoes and yams flourish; cabbages and cauliflowers have never been tried, but cruciferous plants in general seldom thrive in the tropics; on the other hand, cucumbers and gourds are plentiful. The Arabs make from the seeds of the cucumber an oil of a most delicate flavour, which Captain Burton, who is himself a gastronome, states is superior to the best Lucchese olive oil. "In London I have vainly asked for cucumber oil; the vegetable is probably too expensive, and the seeds are too small to be thus used at home. About Lagos, on the Slave Coast, however, there is a cucumber nearly a foot long, with large pips, which might be sent northwards; and I commend this experiment to the civilized lover of oil."

Wheat, barley, and oats here run to straw. Rice is the favourite cereal; but that of Eastern Africa is not so nutritious as that of the Western Coast. The hardest-working of the African tribes, the Krumen, live almost entirely upon red rice and palm oil. Maize is a favourite article of consumption, and a little is grown in the island. The cassava, or manioc, which tastes like parsnips or wet potatoes, is a common article of food amongst the poorer classes. The Wasawahili have fifty ways of preparing it. Burton remarks, "Full of gluten, this food is by no means nutritious, and, after a short time, it produces that inordinate craving for meat, even the meat of white ants, which has a name in most African languages."

Upon the whole it may be said that the rank, damp climate of Zanzibar produces food in abundance, and that the raw material is not lacking, from which, with civilization, a much greater series of comestibles may be produced. The deficiencies, however, are chiefly observable in the animal food of the district, which is very imperfect.

C. Carter Blake, F.G.S.

THE CONDITION OF THE WORKING CLASSES.

No. 4.—Germany.

The nationality of Germany is now so extended, and ranges through so many countries, each of which has its physical differences of people, industries, resources, and climate, that it is utterly impossible to treat the working classes as a whole; and we must therefore, as before the Franco-Prussian war, look at the subject with regard to its old divisions, commencing with Prussia proper. Agriculture absorbs a large number of the population of the provinces of the old Prussian monarchy, for we find that, according to the census of 1867 (the first thoroughly complete one ever taken in Prussia), 8½ millions of people are more or less dependent upon the soil, either as landowners, labourers, or their families. The labourers are of two classes: those who have a permanent engagement, and those who contract to work only for a certain period (*Tägelohner*); these again are subdivided, some contracting for two or three years, others merely jobbing about. The former are usually married, and are bound to provide assistants, constituting, in fact, a kind of gangwork. The latter are not so comfortably situated as those who are permanent members of the farm, although more money is earned by the Tägelohners, who receive at least 20 per cent. more wages; but this again is counterbalanced by the enforced idleness in the winter months, in which the savings are frequently swallowed up. The wages of a general farm servant vary according to the province, and a great proportion is paid in kind. For instance, in Westphalia the wages of a man are from 3*l.* to 7*l.* 10*s.*, and of a maid 3*l.* to 4*l.* 10*s.* In addition to board, the man will get a pair of boots and three shirts, and the maid a pair of shoes and some flax with which to make underclothing. The shirts, we fear, do not get as much washing as they should do; for we learn that it is the local custom to wash linen only two or three times a-year. The board is generally good, and consists in the morning of milk porridge and dumplings; at midday, the same, with potatoes, peas, beans, and sometimes "bubble and squeak;" while in the evening the porridge is varied with herring or potato soup. Meat is added three times a week, either ¼ lb. of bacon or ½ lb. of some other meat, and on Sundays baked fruit and dumplings. The man gets 14 lb. of bread with 1 lb. of butter or lard per week, and the maid has 10 lb., with 12 oz. of butter or lard; and it is considered that this board is worth about

10 guineas a-year. The social condition of the agricultural labourers in Prussia is rapidly improving throughout the whole of the kingdom, though very far from perfection as yet. They are said to be immoral, drunken, and rather too much addicted to thieving, a peccadillo which is not thought much of unless the culprit is found out. The contract system of labour induces the immorality by causing overcrowding in the cottages. A great deal of what was written in Mr. Harris-Gastrell's report on the tenure of land in Prussia might stand for an English labourer in the shires. "The wives are obliged to work daily throughout summer and autumn, and on many properties in winter also. They go very early to work, get half an hour before midday to prepare the dinner, and return to work till sunset. The children consequently come badly off; often there is no older child to take charge of the little ones, who are left to themselves in the house, and the result is a great mortality amongst the young. The education of the labourer is defective, and he has not sufficient inducement to retain what he may have learnt. Often two or three families live in the same small dwelling, sometimes with only one room for sleeping, living, and cooking. Few men, and yet fewer women, have any idea of housekeeping; they live from hand to mouth, and if the wife be not a good manager, the wolf is always at the door." Substitute Dorsetshire for Prussia, and the description need not be altered one whit, except that the Prussian labourer is better fed than his English brother.

Of the artisan population, by far the most important and numerous section may be classed amongst miners and operatives engaged in factories. In many respects these last are treated by their employers fairly and properly, except in the matter of the hours of labour, which are far too long. In the manufactories of Lower Silesia, exclusive of the time allowed for breakfast, dinner, and the afternoon meal, the period of labour averages from 11 to 12 hours a-day, being an hour longer in summer than in winter. Indeed in some of the cloth works the operatives (women included) work no less than from 12 to 13 hours, and some for 16 hours a-day. In a large State spinning factory at Berlin the usual hours of labour are from 5 a.m. to 7 p.m., allowing half an hour for breakfast and the same for dinner. The Silesian manufacturers have been attacked on this score for their want of thought in overworking their people; but they defend themselves with a certain *naïveté* by saying that the people like it, or, in other words, that they prefer overwork when employed in piecework, and that, in fact, the system of over-hours is prevalent in all the trades throughout the kingdom.

The employment of children under 12 in factories and works is forbidden, and those who are under 14 are not allowed to work more than six hours a-day, and those under 16, ten hours a-day, which is just one hour longer than our noble British workman has recently pronounced himself able to bear. *Au reste*, the factory operatives in general, while perhaps better off physically than those in England, do not appear to have advanced much in the cultivation of mutually friendly terms with their employers—"all that they consent to recognise being the necessity of earning the means of subsistence." The wages, of course, vary not only with the nature of the factory, but also with the position held by the employé. In the cloth works at Grünburg, Silesia, the weekly wages (for 12 hours per day work) were—

	s.	d.		s.	d.
For Hand-machine spinners	7	6	to	10	6
Pattern weavers	12	0	,,	15	0
Power-loom workers (women)	4	6	,,	6	0
Boys and girls	3	6	,,	5	0

In the silk, woollen, and ribbon factories the hands may be said generally to earn from 10*s.* to 12*s.* 6*d.* for men, and about 9*s.* for women; though the wages are considerably higher in the more technical departments and for skilled operatives.

The weavers are generally very badly paid, and particularly in some districts. For instance, silk weavers make from 12*s.* 6*d.* to 15*s.* per week; but coarse linen weavers in the district of Bolkenheim only earn 2*s.* 6*d.* per week, and linen and cotton weavers in the district of Glatz from 3½*d.* to 4¾*d.* per day. It is difficult to understand how body and soul can thus be kept together, even with German frugality.

As usual, the wages in the large towns, such as Berlin, are better than those in the country.

	s.	d.		s.	d.	
Coopers get	12	0	to	15	0	a-week.
Bookbinders	10	0	,,	12	0	,,
Compositors	15	0				,,
Turners	10	6	,,	21	0	,,
Tanners	12	0	,,	15	0	,,
Glaziers	10	6	,,	12	0	,,
Painters	15	0	,,	18	0	,,
Masons	10	6	,,	13	6	,,
Mechanics	12	0	,,	15	0	,,
Tailors	12	0	,,	15	0	,,
Shoemakers	10	6				,,
Carpenters	9	6	,,	13	6	,,

Bakers come rather badly off, for, while the wages are not, on the average, above 4*s.* 6*d.* a-week (with board and lodging), they are employed for nineteen consecutive hours.

The dwellings of the artizans are not as they should be. In the large towns they live almost exclusively in lodgings, and even the small tradesman seldom inhabits a house of his own; whereas in the country the reverse is the case. But nowhere does the accommodation keep pace with the rent, which in the towns is about 12 per cent. of the entire annual income. In the district of Memel the houses are of one story, built of mud, and sometimes of grass, containing one dwelling room and an unfloored sleeping room. In Königsberg the houses are built for two, or sometimes for four families; in Bolkenheim (where many weavers dwell) the rooms are barely high enough to allow one to stand upright in, and the windows are not more than 2 ft. square; in Pless, several labourers' families (from ten to fifteen persons) live together in one room. Berlin itself does not figure very creditably, for we find that in 1867 the number of overcrowded dwellings, with six or more persons living in one room, and ten or more persons living in two rooms, amounted to 15,574, occupied by 111,280 people, living in 16,289 rooms, the average being six to seven inhabitants in one room.

A general exception to this state of things is to be found amongst the miners and ironworkers, who hold a better position in the kingdom than most other operatives, in consequence of their interests being attended to by the Government officials, whose duty it is to superintend the coal mines, iron and salt works. "The great importance naturally attached to the conservation of so able and staunch a race of workmen has induced both the State and the private owners of the large works to provide suitable dwellings for them, and to take such care of their comfort and well-being as to make their lot an enviable one, in comparison with many of their fellow-labourers." In Upper Silesia, however, the miners are generally Poles, and such a dissipated and improvident set of men that the managers have resorted to the plan of paying the wages to the wives rather than the husbands—an idea which might be acted upon with great benefit in our English coal districts. The average daily wages in the Government coal mines are—

	s.	d.		s.	d.
For Carpenters..	1	9			
Cutters	1	9			
Drawers	1	5	to	1	8
Hauliers	1	7			

and in the ironworks—

Smelters	2	9	to	3	0
Puddlers	4	0			
Moulders	2	7	to	3	0
Engine-men	1	9	„	2	0
Cokemen	1	3	„	1	6

The dwellings in the mining districts are far superior to artizans' dwellings in other parts of the kingdom. The three royal coal mines of Heinitz have three enormous sleeping houses to accommodate 800 men, who pay 1*s.* 6*d.* a month for a bed and towels, and the use of half a press. The Miners' Union has also done a great deal in promoting mining colonies, by selling, at cost price, or leasing at a moderate rent, one-sixth of an acre of land to anyone who will build a house upon it. Money for this purpose is advanced at 4 per cent., to be deducted from the wages, with a present of from 22*l.* 10*s.* to 30*l.* as a premium for building. Otherwise co-operative building societies do not appear to be very prosperous in Prussia, and the houses of the operative classes generally are ill-built, ill-ventilated, and overcrowded, the expenses of rent varying from 1*l.* per annum in the country to 15*l.* in the town.

The cost of provisions varies as much in the different provinces as do wages and rent, as will be seen by the following statement, each family being supposed to represent a household of four:—

In the province of Posen (circle of Adelnau), the annual cost is 27*l.*, the diet consisting of rye, potatoes, cabbage, millet, peas, grits, meat, and butter.

In the province of Pomerania (circle of Oels) the cost is only 11*l.*, including beer and brandy, but very little meat.

In the circle of Neurode it is 15*l.*, and in that of Pless 13*l.*

In the province of Westphalia (circle of Koesfeld) the diet is bread, meat (very little), milk, coffee, chicory, butter, potatoes, at a cost of 7*l.* 10*s.*, whereas in the Rhenish province (circle of Essen) the expenses run up to 26*l.* 5*s.*; the cost of provisions differing, even in the northern and southern portions of this circle, to the amount of 25 per cent.

The average price of wheat throughout the provinces is from 8*s.* to 9*s.* 4*d.* the *scheffel* (very little more than a bushel).

PHILLIPS BEVAN, F.R.G.S.

GERMAN PRESERVED BEEF.—Although the public is becoming quite familiarised with Australian preserved meat, and the consumption of this food is increasing to a most material extent, the importation of preserved beef from Germany is a decided novelty. At recent public sales a large quantity of this beef was offered, but it did not seem to find favour with buyers, and was nearly all withdrawn. 1,011 tins, each containing 1½ lb. of meat, were, however, disposed of, the price being 5*d.* per lb.—*The Grocer.*

THE LORD MAYOR'S DINNER, 1871.

Turtle soup, it is well known, is not on this occasion counted by tureens; the Lord Mayor's banquet is "a feast of reason and a flow"—of turtle. A visit to the crypt below Guildhall, which is the kitchen whence issue the huge barons of beef, the hundreds of turkeys, capons, hams, tongues, and other delectable dainties provided for this monster entertainment, will explain the vast scale on which the caterer for the Lord Mayor's dinner conducts his operations. Turtle soup may be seen in *tanks*. Barons of beef which have already been at the fire nine hours, will not be injured by a few more hours' roasting—one whole day being the period allotted to them. The range fire for roasting in this kitchen is, I believe, the largest in the world. The poultry apparently is too numerous for calculation, except by the medium of mathematics; and the pies would cover a croquet lawn of reasonable dimensions. Lobsters, prawns, and fish appear to be as plentiful in the Guildhall crypt as blackberries on a hedgerow. The night previous to the feast is occupied with furnishing the mighty tables, throughout their prodigious length, with the necessary knives, forks, glasses, etc., and all the passages leading to the crypt will be found littered with plates, dishes, and other crockery, together with epergnes, candelabra, and the rest of the table furniture. There were provided for this, the greatest of our civic feasts, 14 turtles, weighing 1,067 lbs.; two or more barons of beef; ten sirloins; two or three rounds of beef, and four saddles of mutton; four quarters of lamb; 100 turkeys; 320 head of poultry; 100 tongues; 70 hams; 65 pigeon pies, and 65 other pies of a more complicated character; 180 pheasants, and two or three dozen brace of partridges and grouse; 150 lobsters; 12 lbs. of prawns, and 66 dishes of fish and *entrées;* 250 jellies and creams; 300 ice puddings and moulds of ice; 800 mince pies; maringues, pastry, gateaux, bon-bons, preserved and dried fruits, and other little kickshaws *ad libitum*. The dessert was composed of fruit cultivated chiefly in the hothouses of Mr. Willmott, at Isleworth. It consisted of 136 pines; grapes—black Hamburgh and white muscat—being placed around the base of each epergne, which was crowned with a pineapple. There were hundredweights of filberts, bushels of walnuts, pears, apples, and other fruits in

unlimited numbers. Covers were laid for upwards of 700 guests. It would be interesting to know, after the guests had "worked their own sweet will" upon this Brobdignagian supply of luxuries, what was the value and amount of "the *fragments* that were left?" What becomes of them? So liberal an amount of good is supplied, that an immense quantity of remnants must be left, besides dishes entirely untouched. Hospitality is a virtue which cannot be too highly esteemed, but "the dogs eat of the crumbs which fall from their master's table." Who are my Lord Mayor's dogs?

P. L. H.

THE CHICK PEA.

THE Chick Pea (*Cicer arietinum*) is a plant largely cultivated in the South of Europe, as well as in India and other eastern countries where it is called *gram*. It is an annual herbaceous plant, belonging to the papilionaceous division of the natural order *Leguminosæ*, and has white or rose coloured flowers, which are succeeded by hairy pods from an inch to an inch and a half long, and about three-fourths of an inch in diameter, usually containing three or four, but sometimes only one seed about the size of a common pea, but with a more or less wrinkled surface; they vary, however, both in size, shape and colour. The plants are extensively cultivated in most countries where the winters are not too severe, the seeds being sown in autumn. Experience, however, has shown that it is too tender a plant for field culture in this country. In climates suited to its growth the seeds are found to be a very useful article of food. In India they are used in a variety of ways. Ground into flour or meal, excellent puddings and cakes are made, and the meal mixed with sesamum oil and sugar candy produces a favourite Indian sweetmeat. Roasted or parched whole, they form a convenient food for carrying on journies. At one time small quantities of these seeds were brought into this country from Turkey, and ground and sold as pea meal; they have also been employed as a substitute for coffee, and are even now so used in Italy and some parts of the South of France; they moreover, form an ingredient in soups. It is in India, however, that the plant has the greatest economic value, for besides the numerous applications

to which the seeds are put, the leaves are also used as a vegetable, and the whole plant is considered a good fodder for horses. Perhaps the most interesting product of the plants is the acid that is obtained from them and used by the natives as a valuable medicine. When the plants are two months old and about a foot or eighteen inches high, the upper ends of the twigs are nipped off to enable the plant to throw out a greater number of branches, and consequently to increase the seed produce. When the pods begin to form, it is considered time to collect the acid which exudes from the glandular hairs that cover the leaves, first appearing like drops of dew and ultimately forming into crystals. During the night these dew drops are deposited on the leaves in great abundance, and are collected in the early morning by spreading a fine muslin over the plants; this is allowed to remain the whole of the following day and night, when it becomes saturated with the acid which is wrung out of it and bottled ready for use. In the process of wringing the cloth the acid acts so powerfully upon the hands, that it is necessary to wash them immediately. The oldest plants yield the strongest acid and it is also of a deeper red colour than that obtained from young plants. The acid, however, becomes stronger by keeping, and is considered by the natives a sure cure in cases of indigestion or pains in the stomach. A teaspoonful taken in a glass of water is a dose for an adult, and it is said to effect a cure in two or three hours. The acid is so sharp that the mere fact of walking through a gram field is sufficient to destroy a good pair of boots.

John R. Jackson, A.L.S.

A Good Dinner.—The late Mr. Walker, author of "The Original," was a *gourmêt* who made simplicity his rule and was opposed to all "barbaric ornaments" of modern dinners. He described a dinner which was given at the Athenæum Club, and which was composed of the following dishes, viz.:—6 oysters, a water souchée of flounders, with brown bread and butter, a grouse with French beans to follow, a bottle of claret, and a cup of coffee. Mr. W. M. Thackeray, substituting fresh herrings for flounders, highly approved of Mr. Walker's repast, which seems to deserve the notice of persons who desire to combine economy with frugality. In connection with this matter, it may be stated that the cost of the Guildhall dinner and wines on Lord Mayor's Day, 1871, was 1,122*l.*

THE SANITARY CONDITION OF THE "BLACK COUNTRY."—Part III.

Wolverhampton.—Since the publication of the article on this town in the *Food Journal* of January, an abatement of the epidemic of small-pox has happily set in, and it may now be hoped that the worst trial of this unfortunate district has passed. Too much, however, yet remains to be done, before the sanitary condition of the town can be considered in a merely tolerable, not to say satisfactory, state. Notwithstanding the diminution of the epidemic, the death-rate for the week ending on January 6th, was no less than 59 per 1,000 per annum; and the Wolverhampton paper *(Midland Counties Express)* for January 13th says that the death-rate for the week ending on the latter day will be exceedingly heavy. A rather curious dispute is going on between the Local Government Board, on the one hand, and the Wolverhampton Town Council on the other. This dispute arises from the action of the council in the matter of re-vaccination. The dreadful ravages of small-pox caused a complete panic in the town, and the council earnestly called attention to the acknowleged benefits of re-vaccination for adults, at the same time passing a resolution authorising practitioners, not public vaccinators, but otherwise duly qualified, to vaccinate all applicants, and to charge their fees to the Town Council. Large numbers of persons have been re-vaccinated under this arrangement, and the decree of the Council remains in force at the present date, though in direct defiance of the communication of the Local Government Board. The allegations of the Local Government Board are:—

1. That the resolution of the Town Council authorising all the medical men in the town to perform primary and re-vaccination, and to charge the Council 1*s.* 6*d.* and 1*s.* per case respectively, was unnecessary, the guardians of the parish being, by law, the proper vaccinating authority.

2. That the interests of the public health are likely to suffer by the interference of the Council with the duties of the guardians.

3. That the duty of the Council lies in the provision of proper hospital accommodation, and in seeing to the efficient disinfection of houses and things.

These remarks of the Local Government Board led to some very

warm discussion at the meetings of the Council, but no definite understanding has yet been arrived at.

The appointment of Medical Officer of Health in Wolverhampton still remains on a merely temporary footing, and is, in fact, nothing more than the result of the present state of panic. It is impossible to resist quoting a certain Mr. Lees, as his remarks show that many persons are quite ignorant of the proper functions of an officer of health, who should prevent rather than cure disease. Mr. Lees said, as a conclusive reason to his mind against the permanent appointment of an officer of health, that "he would take his share of the responsibility of voting any expenditure that may be necessary for stamping out small-pox, *but he did object to spending money on an officer when there was nothing for that officer to do.*"

Does that gentleman suppose that there ever has been, or ever will be, a time when a filthy town like Wolverhampton will leave an officer of health with nothing to do? Even Mr. Lees must feel satisfied, at present, that the officer has enough to do. No wonder that towns thus governed are ravaged by disease.

It would appear that very serious danger has arisen through the removal of many children born in the workhouse previously to their being vaccinated, such children very often escaping vaccination altogether. In the "Black Country" there is a vast canal traffic, and a considerable number of the population belong to the class of boatmen and their families. These people may be said almost to live on board their canal boats, and the greatest difficulty is always experienced in ensuring the vaccination of the children.

As a natural consequence, the infantile mortality amongst the boat people is shockingly high. It should be mentioned to the credit of the Duke of Bridgewater's Trustees, that they sent a sum of money to their manager at Wolverhampton, to be devoted to paying for the vaccination of the boatmen's children. One of the public vaccinators made it his business to visit the boats, but the boatmen all refused to let their children be vaccinated.

The following case will show how this dreadful disease is propagated from district to district:—

"Information was telegraphed to Wolverhampton that there was a case of small-pox in a boat that was coming up. The boatman, finding that the authorities were aware of it, passed his boat through the locks in the dead of the night, and got to Tipton, but the authorities there had also taken precautionary measures."

On January 12th, a resolution was carried by the guardians to the effect that no children born in the workhouse should in future be allowed to leave until after proper vaccination. This regulation

will remain in force so long as the present epidemic of small-pox lasts.

BILSTON.—Bilston is a township in the parish of Wolverhampton, and also part of the Parliamentary borough of the same name. Municipally, Bilston is independent of Wolverhampton, and is under the control of a local governing body, called the Bilston Town Commissioners; but the poor-law is administered by the guardians of Wolverhampton, who act for the whole of this great parish. The town of Bilston is one of the most important in the "Black Country," and contains a population of over 24,000 persons. Bilston does not appear separately in the reports of the Registrar-General, but by the courtesy of the Clerk to the Bilston Commissioners I have been furnished with the returns of deaths for the twelve months from January to December, 1871. These returns show 568 deaths, or about 24 per 1,000. The site of the town is rather elevated, and extends for about a mile and three-quarters in length, the old road from London to Holyhead passing through it. Bilston is about two and three-quarter miles south-east of Wolverhampton, and the same distance north-west from Wednesbury. There is no ground of complaint as to the religious and educational accommodation in the town. The various denominations have sufficient churches and chapels, and the National Schools are stated to be large enough to receive some 1,400 or more children. A movement is at present on foot to erect a town hall and also to establish a free library. For both these objects considerable voluntary subscriptions have been received, so that only a part of the expense will fall upon the general rates.

As no special reports, either on behalf of the Local Government Board or the Town Commissioners of Bilston, were forthcoming, the writer of the present article visited the place for the purpose of satisfying himself, by personal observation, of its sanitary condition. The results of his inspection are such as he regrets to have to publish, though they are only what he expected from the state of the neighbouring towns already reported upon.

The general aspect of Bilston is extremely repulsive, by reason of the dirty condition of the streets and courts, the prevalence of dense smoke from the numerous ironworks, and the huge accumulations of slag and pit refuse visible on all sides of the town. There is noticeable amongst the working classes a general appearance of physical debility, marked by the extremely unhealthy complexion of the skin, and the want of brightness and prominence in the eyes. No one could spend a day walking through the back streets and courts of Bilston without being painfully impressed by this almost

universal appearance of physical degeneration amongst the poorer classes of the population. The bulk of these people seem to be always in a low state, ready to fall easy victims to any epidemic. The wonder is that the epidemic of small-pox at Wolverhampton has not already spread over Bilston. As it is, there are enough cases here to cause anxiety. The people of Bilston seem to use tap water from the mains of the South Staffordshire Waterworks Company almost universally, very few pumps being visible in the town. Many complaints are made of the frequent stoppage of the Company's supply, especially on Saturdays. These stoppages are the source of much hardship and inconvenience to the poorer inhabitants, who have no means of storage; and it is to be hoped that the Town Commissioners will move energetically in the matter, and see that the Waterworks Company keep up a more constant supply.

It is impossible for any language adequately to describe the horrible condition in which the greater part of this town exists. Nothing short of personal observation could convey to the mind a full picture of the squalid filth in which too many of the population live, or rather languish, on the verge of pauperism and disease.*

J. BEVERLEY FENBY, C.E.

[TO BE CONTINUED.]

THE question whether acorns are a suitable food for pigs seems to meet an affirmative answer in the fact that around Lisbon the natives depend largely upon the acorn crops, not only for feeding pigs, but for fattening them for the Lisbon market. Last year, in consequence of a severe drought which prevailed, the acorns did not ripen properly, and the produce consequently was very scanty. Large herds of swine had therefore to be fattened on other food, and several thousands in the neighbourhood of Lisbon, and particularly to the south of the Tagus, were fed on damaged Indian corn purchased at low prices. Fat pigs fed on acorns are exported from Lisbon to Spain, but the failure of the acorn crops considerably reduced the numbers. The flesh of pigs fed on acorns is said to be of excellent quality, though that fed on Indian corn is superior.

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* At the weekly meeting of the Wolverhampton Guardians, held on Friday, February 16th, the following extraordinary disclosures were made:—A woman from Bilston applied to the Board for compensation for clothing which had been destroyed by order of the medical officer of the district. In this woman's house a very bad case of small-pox had occurred, and the bed and bedding had been torn up and deposited in the Bilston Brook, which flows past the railway station. This brook flows into a stream which forms part of the supply of the Birmingham Waterworks Company. Comment on such conduct as this is needless.

CHEAP DISHES.—Part II.

IV.—Pea-Soup.

I told my readers, at the outset of these papers, that every receipt which I shall give them has been tried and proved at my own table, under the liberal though economical directions of my own wife. They may therefore rely upon the success of each dish, and at the same time will not look for the extraordinary variety given in cookery-books, which are too often mere compilations from other compilations, and too theoretical for the ordinary cook or practical housewife. For pea-soup, for example, our method is as follows:—Take the liquor in which any fresh meat has been boiled—mutton, beef, or pork—put into it one large carrot, one large turnip, one large Spanish onion, one pint of peas; after boiling five hours add one pound of salt pork; boil the whole for three hours (making eight in all); then take out the pork and cut it into small squares like dice, season with pepper and salt, strain the soup, put it back in the pan again to boil, put in the squares of pork with a tablespoonful of Harvey's sauce, two spoonsful of ketchup, and a saltspoonful of extract of beef; boil for ten minutes to make thoroughly hot, and send to table. Eat it with dried mint according to taste, and small squares of toast.

Many receipts are given to make pea-soup without meat, but I do not recommend such soup even to the poorest family. One pound of meat is the smallest quantity that can be used for a gallon of soup. Of course all good housewives make use of bones and liquor (in which meat has been boiled) for soup; but the continual keeping up of the stock-pot is a mistake. Some cooks throw pieces and bones into stock for weeks and months together. The pot should be thoroughly emptied and cleaned in winter at least once in a week, and in summer once in two days. The other day I came across some small parcels of so-called "pea-soup" in squares on the principle of extract of this and extract of that, so common and now and then very useful. I presented a square to my wife; it cost 1½*d.*, and was warranted to make a quart of soup. My wife found it useful as an addition to her own soup; but she preferred a pint of peas at the same price.

V.—A Sweet and Pretty Dish.

Stew six good baking apples in the oven with a little sugar and water; then take out the apples, put them into a glass or silver dish with a little bright jam on the top of each apple; stick them full of peeled almonds, and pour custard over the whole. The custard is made with two eggs, half a pint of milk, six lumps of sugar, some grated nutmeg, and a few drops of vanilla.

VI.—A Cheap and Capital Salad.

Take one pennyworth of mustard-and-cress, two pennyworth of watercress, two pennyworth of cooked beetroot, and a fourpenny head of celery; cut the beet into small dice squares; take a glass or silver dish, pile the beet into pyramids, do the same to the celery and watercress, and arrange all round the dish; heap the mustard into a pile in the centre; boil two eggs hard; take out the yolks, and mix them with a little mashed potatoe, a tablespoonful of vinegar, half a tablespoonful of Harvey's sauce and ketchup, pepper and salt, two tablespoonsful of milk, the same of oil, a saltspoonful of sugar; pour this over the whole, and you will be well satisfied with the result.

VII.—Brawn.

Get a pig's head (3*s.* 6*d.*), four pig's feet (3*d.* each), and one cow-heel (10*d.*); put them into a stewpan with as much water as will cover them; add a teaspoonful of peppercorns, a little parsley, an onion with two cloves stuck into it, and a slice of bacon. Stew for eight or ten hours, until all the meat falls from the bones; then take out of the pan, put them into a large dish, and carefully remove all the bones, both great and small; cut the meat to pieces, add pepper, salt, and nutmeg, and turn it into a brawn-tin; leave it all night, and in the morning it will be firm and ready for table. This will last for a week for an ordinary family taken at breakfast or lunch. It is best eaten with a little mustard and vinegar.

My objection to the Oxford and other brawns that one buys at shops is their toughness. The dish which I have just described is soft and toothsome, sufficiently firm, however, to cut into nice tempting slices. If you wish to be specially luxurious and extravagant, you can buy an ox-tongue (5*s.*), cut it up into solid squares, and add it to the above. I relish my brawn better without this, feeling that the dish is just as good and considerably cheaper, though when company is staying in the house the ox-tongue is occasionally added. A brawn-tin costs 3*s.* 6*d.*; but an ordinary basin will do just as well.

Osiris.

FOOD RESOURCES OF THE UPPER YANG-TSZE.

The impetus given to steam navigation and commercial enterprise by the success of the Suez Canal, taken in connection with the black cloud lately hovering over our diplomatic horizon in China, suggests the present as a fitting time for calling public attention to the continued exclusion of foreign vessels from the waters of the upper Yang-tsze Kiang. Recent events have shown that the Chinese Government is as conservative and unscrupulous as ever—that so far from aiding the progress of commerce, protecting and fostering the ministers of religion and civilisation, and meeting the representatives of Western nations in a spirit of fairness and equality, it studies to accumulate obstacles in the way of trade; it has attempted to crush missionary efforts; it loses no opportunity of heaping insult and contumely on the heads of our ambassadors and consuls, and treats the Tientsin Convention of 1858 with undisguised contempt. Under such circumstances, reticence of speech becomes a condonation of the grievances complained of, and only offers a fresh target to the musketry of Chinese craft, of which the Mandarins in power are never slow to take advantage.

In all ages and in all lands the first step towards the development of a country undoubtedly consists in the formation of highways, and the adoption on them of rapid, safe, and frequent means of communication adapted to the difficulties of the situation, and modified to meet the requirements of population and the exigencies of heavy transit. Nowhere in the world has this want been more thoroughly supplied, up to a certain point, than in China, intersected as that vast empire is with canals, threading together its network of rivers, creeks, and magnificent lakes; but, whilst the water-way in itself is superb, the boats which plough its surface are as obsolete in regard to efficiency as the people who use them are antique in their habits and ideas.

Although not as yet open to foreign vessels, the waters of the upper Yang-tsze are navigable by sea-going ships for at least 363 miles above Hankow, and fully 1,000 miles for suitable tug-steamers. It will probably be interesting, therefore, to the readers of the *Food Journal* to learn something concerning the food and other resources of the upper portion of this noble river, that they may be in a position to judge of the enormous trade from which the

foreigner is at present excluded. Premising that when the terms right or left are used in allusion to the banks of the river the traveller is supposed to be stationed in the middle of the stream, looking towards its embouchure, we shall get on board a junk at Hankow, and proceed up the Yang-tsze Kiang.

About thirty miles above Hankow occurs a singular loop in the river, which sweeps round a curve of the same distance, the two extremities of the horse-shoe thus formed being apart from each other less than half a mile, and separated by a flat neck of land which is often flooded to the depth of a few feet. In however amiable a frame of mind the traveller may have started, at this point his temper receives its first rude shock. Consulting his chart, he sees the great curve depicted, and, leaving his junk for a time, he seems to satisfy himself that the water route across the half-mile isthmus is practicable, so he determines to jilt Farmer's Bend, as the detour is called, and shun Ashby Island by a bold short cut. Returning and overcoming the opposition of his boatmen, the vessel is punted along until within about 100 yards of the upper reach, when it sticks fast probably on a submerged lime-kiln (a circumstance which happened to the writer on his first voyage), and his progress is delayed some hours. Here, then, is an opening for a capitalist in the good time coming. A canal of half a mile to save thirty ought surely to pay!

Passing several groups of villages, and a few hills on the right bank, the first place of importance reached is the open town of Sing-ti, on the left, situated 98 geographical miles from Hankow. It is an emporium for timber and a rendezvous for junks, vast numbers of which are usually to be seen anchored there, with piles of logs, spars, and sawn boards forming a background. Presently the Kiun-shan mountain, about 3,000 feet in height, looms in the distance, and reminds the tourist of the Lieu-shan behind Kiu-kiang which sentinels the approach to the Poyang Lake. In both instances it will be remarked that vast mountain masses occur at the outlets of the two largest sheets of fresh water in China.

The entrance to the Tung-ting Lake is 123 geographical miles from Hankow. It is a majestic expanse about 60 miles in length and 35 in breadth at the widest part, and laves the shores of the Moning tea districts as the Poyang Lake yields fertility to those of the Moyune. In former times the teas produced here all found their way to Canton viâ the Meling Pass, a tedious and expensive journey; but the Chinese must now be convinced of the superiority of foreign means of transit, because no sooner was Hankow opened as a foreign depôt than they diverted their traffic by

the easier and better water route to that port. At the southern extremity of the Tung-ting Lake is the Great Kishan hill, devoted to the growth of tea for the Emperor's own use. The value of this tea on the spot is about 6,400 cash per catty, or 20*s.* per lb.; but it is rarely that a foreigner can obtain beyond a small sample of it, no matter what price he may feel tempted to offer. Important as this vast lake must be on account of its tea, and as forming the highway for most of the coal brought to the Hankow market, its navigation has been hitherto prohibited to foreign vessels. But, apart from its own commercial value, it possesses another feature which will one day prove inestimable in the safe navigation of the upper Yang-tsze—as vessels entering and crossing the lake, by using the Taeping Canal, are enabled to avoid 120 miles of tedious windings and the tremendous current of the great river. It is possible that at present this route might not be available for large steamers, without a thorough dredging of the canal; but here, again, the capitalist may by-and-bye have an opportunity to make his power felt, and ultimately rejoice in the dividends to be derived from the Tung-ting Lake and Taeping Canal Company when this limited liability concern is formed and flourishing.

Between the entrance to the Tung-ting Lake and the small walled town of Shi-show a distance of 120 miles has to be sailed, although, as the crow flies, it is only 44. The country is a dead level of exceeding fertility, and is defended from the river by dykes, which secure the farmers from frequent inundation, although not from perpetual anxiety. The current is usually so impetuous that it incessantly gouges out the soil from one side of the channel and deposits it on the other, only to reverse the action, probably a few years thereafter, at no very distant spot. On this account the utmost vigilance has to be constantly maintained, the embankments strengthened, altered, or renewed, and the houses and barns shifted according to the wayward caprice of the mighty river. When the husbandman escapes a disastrous flood for a few years, he becomes rich, and can afford to indulge in the "autumnal reflection" of a facetious contemporary—

> "The reapers now with scythe in hand,
> Amid the yellow corn fields stand;
> What pleasure 'tis to watch each cutter,
> And think of future bread and butter!"

as the whole region teems with fertility, producing wheat and beans of rare quality, and carrots of startling dimensions and colour. It might be said, that here there is surely another El Dorado for the capitalists in the form of a Yang-tsze Embankment Company,

Limited; but considering the erratic freaks in which this lively stream occasionally indulges, especially after swallowing up the melted snows of Thibet, it may possibly be judicious to look elsewhere for a safer investment.

Sha-sze, the next point worthy of notice, although only a straggling open town, is a place of great importance as a port of transhipment; the junks from Sz'chuan usually unloading there, the cargoes intended for Hounan and the south, Hankow and the lower Yang-tsze, being transferred to vessels of a lighter build. Here may be seen miscellaneous shipments of salt, sugar, tobacco, hemp, pepper, spices, opium, cotton, sundry medicinal drugs, silk, wax, and small boxes of gold. It also derives influence on account of the Taeping Canal, already alluded to, having its entrance only a few miles further up, by which large numbers of junks continually arrive from ports on the river below the entrance to the Tung-ting lake. Forecasting events, and in anticipation of the good time coming, when Chinese jealousy shall have given place and yielded to British enterprise, it will not be astonishing to find a railway station some day at Sha-sze, having one of its grand termini at Hankow, the places being only one hundred miles asunder in a direct line overland, whereas by water the distance is nearly double.

The Yang-tsze hitherto averages a mile and a-half in width; when at I-tu-hien it suddenly contracts to less than one-fourth, gushing with increased depth and current out of the I-chang gorge, which commences the picturesque scenery of the upper river. At intervals along the banks are numerous lime kilns and quarries, which, taken in connexion with the coal and iron mines a little further up, will, no doubt, be the means of ultimately developing an extensive iron manufacture in the neighbourhood.

W. Cochran.

[to be continued.]

According to the *Canadian Pharmaceutical Journal*, the white hue of apparently good lard is perfectly fallacious; for it is said to be a common practice among dealers to mix from 2 to 5 per cent. of milk of lime with the melted lard. A saponaceous compound results, which has the double advantage of being beautifully white and allowing 25 per cent. of water to be stirred in, during cooling, without betraying itself. A good test of the suspected article is to mix with it an ointment of nitrate of mercury, which will turn the white into a slate colour.

MARKETS OF THE MONTH.

The effects of the mild weather which we have experienced since Christmas cannot but be disastrous, and unless speedily checked by a colder period, I fear that we shall have to deplore an unusually bad fruit season. The weather, too, has had its effects upon the meat market—effects beneficial to the public; sellers are compelled to clear out, and cannot hold their usual winter stock of meat. Prices consequently have ruled favourably for purchasers. Prime joints of the best quality may be bought for 10*d.* per lb., though the best classes of mutton fetch a higher price to retail buyers. Lamb has entered an appearance—not yet, however, in any considerable quantity, price from 50*s.* to 55*s.* per lamb. Pork is cheap, small legs of prime quality at 7*d.* to 8*d.* per lb. only. Eggs, as I anticipated, are making 9*s.* per hundred of six score, and if the mild weather continues will very soon be worth not more than 7*s.* 6*d.* Fresh butter is cheaper, too—from 1*s.* 3*d.* to 1*s.* 6*d.* per lb. Salmon has not become much cheaper at present; since its first appearance it has not fetched less than 4*s.* per lb., but in a week or so, or perhaps in a few days it will fall considerably, probably as low as 2*s.* 6*d.* Lobsters have continued very dear, good sized ones being eagerly purchased for 4*s.* or 5*s.* a-piece. Oysters are as usual an expensive luxury, the inferior kinds fetching 1*s.* 6*d.* per doz.; natives are very scarce, and worth almost any money. Wild fowl have commanded excessive prices during the past few weeks; wild ducks from 3*s.* 6*d.* to 4*s.*; widgeon, from 2*s.* to 2*s.* 6*d*; woodcocks have fetched 5*s.* to 6*s.* each; snipes, 2*s.*; black plovers, 1*s.* 3*d.* to 1*s.* 6*d.*; golden plovers, 1*s.* 9*d.* to 2*s.* 6*d.*; black game, from 3*s.* to 3*s.* 6*d.*; American grouse, 3*s.* to 3*s.* 6*d.*; hares, 4*s.* to 4*s.* 6*d.*; rabbits, 1*s.* 3*d.* to 1*s.* 9*d.*; partridges and pheasants at the close of the season were frightfully dear, young birds at one time costing 2*s.* 9*d.*; old birds, 2*s.* each; while pheasants found eager buyers at 10*s.* 6*d.* per brace. Poultry is dear, and will be dearer still. This is the season for guinea fowls, which are now realising 4*s.* each. Chickens fetch from 1*s.* 9*d.* to 3*s.* 6*d.*; pullets, from 4*s.* to 5*s.* 6*d.*; capons, from 5*s.* 6*d.* to 7*s.* 6*d.*; ducks, from 3*s.* to 4*s.*; geese, from 7*s.* to 9*s.*; goslings, 9*s.* to 10*s.*; ducklings, 5*s.* to 6*s.*

The game season being over, the resources of Leadenhall are taxed to their utmost to provide a substitute for game birds. Knotts, ruffs and reeves, redshanks, dotterel, and wild fowl, not omitting quail, are, however, generally to be obtained until the

middle of March, and quail until August. Larks have been unusually dear—3*s.* 6*d.* per dozen. Pea fowl will be in season shortly. Turkeys have been cheaper than they were at Christmas time; their season is now over. Though poultry will gradually become dearer each week as the season advances, vegetables, butter and eggs, and fish will become cheaper. I cannot omit to state that the trade in tinned beef and mutton is rapidly developing, and is assuming gigantic proportions. Now is the time for making orange marmalade; Seville oranges are at their best and cheapest. Normandy pippins are making 70*s.* to 80*s.* per cwt.; Normandy pears, 70*s.* Stewed in a little weak syrup, these pears make an excellent and *recherché* dish; a little cream will render them one of the most delicious sweets which it is possible to place upon the dinner-table.

Peas and mushrooms in tins have dropped down to the usual figures, the finest peas being 13*s.* per dozen pint tins, the best mushrooms 13*s.* 4*d.* I would remind my readers that delicious oysters can be purchased in tins containing a score, more or less, for from 16*s.* to 18*s.* per dozen tins; now that oysters are so dear, it cannot, I think, be too widely known that those in tins are quite as good scolloped as fresh ones. Hothouse pines are selling for 10*s.* or 11*s.* per lb.; hothouse grapes, black, 10*s.* to 12*s.*; white "muscat," 14*s.* to 16*s.* per lb. Tangerein oranges, 7*s.*, and mandarin, 8*s.* per 110; Valencia mandarins, in small boxes of 50, from 2*s.* 9*d.* to 3*s.* per box; blood oranges, 10*s.* per 110; Malta egg oranges, 20*s.* per box, containing about 200. Lady apples, 2*s.* 6*d.* per box; pomeloes, from 3*s.* 6*d.* to 5*s.* per dozen; dessert apples, 16*s.* per sieve; cooking apples, from 11*s.* to 14*s.* per bushel. Forced asparagus is worth, long, 7*s.* to 8*s.*; short, 3*s.* 6*d.* to 4*s.* 6*d.* per bundle. Cucumbers from 2*s.* to 3*s.* 6*d.* each; seakale is cheaper; as also is rhubarb and cauliflower; best cauliflower, 3*s.*, seconds, 2*s.* per dozen. Fresh mushrooms, in pottles, 15*s.* to 18*s.* per dozen. Green mint, for the early lamb, 1*s.* 3*d.* per bunch; and delicious salad is also to be had, with lettuce, and endive grown in France. Besides these luxuries, Covent Garden dispenses delicacies too numerous to mention; from thence the retail dealers procure French plums, figs, dates, Metz fruit, muscatel raisins, almonds, nuts of all kinds, preserved truffles, tomato conserve, olives; and our kitchens are supplied with macedoines, harricot verts, flageolets, cockscombs, asparagus, and apricots, apricot pulp, peaches, cherries, plums preserved in tins, imported from France and Spain; and Rahat la koum, delicious for dessert, is also a commodity much in demand.

P. L. H.

CORRESPONDENCE.

THE MEDICAL DECLARATION RESPECTING ALCOHOL.

To the Editor of the "Food Journal."

THE discussion which has been raised in the columns of the *Times* and other papers respecting the medicinal and dietetic value of alcohol, *àpropos* of the recent medical declaration, is for many reasons a misfortune, not the least of which is that it leads the public to believe that even yet "doctors differ" upon one of the broadest principles of treatment; that, while some still believe in Sangrado's method, others lean to the belief that all diseases may be exorcised by alcohol.

It is always subject-matter for regret, when questions which need to be discussed by the aid of the white light of reason are handled by partizans with all the fanaticism of a pure party spirit. In a medical declaration respecting alcohol, it would have been wiser to have adhered to the strictly medical aspects of the question, which after all amount simply to this—Is alcohol necessary in the treatment of disease, or is it not? Nay, we may narrow the field of controversy still further by putting the question in this form—Are stimulants necessary in the treatment of disease, or are they not? And if they are, then what stimulants are the best? Now, these questions are fortunately of a nature about which medical men will scarcely disagree. To remove stimulants from the physician's armoury would be tantamount to taking away three-fourths of his Materia Medica. In one shape or other, some acting more directly upon the nervous system, while others act more directly upon the circulatory or respiratory systems, three-fourths of our remedies are of a character which may correctly be classified as stimulating. Disease is a *minus*, not a *plus*, sign in the animal economy and we need building up rather than pulling down to successfully struggle against its ravages. Now, without at all going into the question whether the "dietetic value of alcohol is immensely exaggerated" or not, it is indisputable that it stimulates the circulatory system, that it does so more certainly, more safely, and more pleasantly than any other drug, and that the circulatory system requires stimulating in probably the majority of diseases. These considerations alone will always lend a high value to alcohol as a medicinal agent; but it is not merely because it tends to mislead the public upon these points that the publication of the recent declaration is to be deprecated. There are three remaining reasons which suffice to condemn it. These are (1), that it unjustly criticises the judgment of the medical profession generally; (2), that it lends itself to a sensational error when it states that the medical prescription of alcohol is a common cause of intemperate habits; and (3), that it is most unwise in urging the medical profession as a body to join some political party in promoting restrictive legislation upon the subject of alcohol consumption. I will say a few words upon each of these heads.

The first paragraph of the declaration sweepingly condemns the profession for the indiscriminate prescription of alcohol. This I hold to be unjust. As I have

said elsewhere (*Manchester Guardian*), this accusation applies either to the signatories themselves or to the rest of their professional brethren. If to the former, all I can say is that great blame is due to Sir James Paget, or to Sir Thomas Watson, or whomsoever they may be, for indiscriminately prescribing alcohol, knowing it to be a most powerful drug, and holding the peculiar views that they do as to the probable results of their prescription. If, on the other hand, they refer to the non-signatories, I indignantly deny the charge, not only on my own behalf, but also on behalf of every medical man whom I know. For my own part, I can safely say that I never prescribe alcohol unless I have reason to believe that it will do good, and that it is the best thing which I can prescribe. In other words, I use the best of my judgment; and if I, so acting, believe alcohol to be the most likely drug to answer my purpose, declarations of this kind, even if I were to sign them for the sake of being in such goodly company, can no more influence my real belief than did Galileo's signature influence his as to the movements of the celestial bodies. If the declaration should indeed make any medical man who has signed it refuse to prescribe alcohol, although he does believe it to be really indicated, then I cannot but regard this declaration as a real misfortune for the patients of that particular medical man.

The second paragraph affirms that the medical prescription of alcohol is a common cause of intemperate habits. I appeal to the common sense of the country. Is this true or not? Look around you, medical men and non-medical men, and tell me truly if you can confidently point to a single drunkard whose vice is to be traced to the prescription of alcohol, whether that prescription be discriminate or indiscriminate. Assuredly, among the poor, with a hundred other causes busy at work, you will scarcely have the boldness to affirm that such is an even possible occurrence; equally loth will you be to assert that it is true in the case of intemperate men in *any* class. I do not deny (simply because I really am not much acquainted with the class, and therefore cannot speak reliably) whether it is occasionally true with women of the higher classes; yet if it be true that some fashionable weakling lays the blame of her vice upon her medical man, is not this medical declaration another illustration of the *mons parturiens* and the *ridiculus mus?* "Shall there be no more cakes and ale?" nay, rather shall there be no more honest and fearless medical aid because my Lady Blanche has an unfortunate habit of taking a glass or two of curaçoa and soda-water before dinner, which deranges her ladyship's appetite, and which unfortunate habit she assures you had its beginning in Doctor Toadeyem's prescribing it in a case of great depression following a ball, etc.? Opium-eaters *may* be created by their medical men ordering them opium, a stray (female) drunkard here and there *may* be made by the indiscriminate prescription of alcohol. What then? Are we, therefore, to quite desist from the prescription of opium and alcohol, or only to prescribe these lethiferous drugs after much prayer and fasting? Such a declaration as the one I am referring to is assuredly of a nature the reverse of complimentary to the reason and the moral responsibility of our higher classes.

In regard to the concluding paragraph of this declaration, which urges the profession to take political action in the matter, I will content myself with quoting from a former letter of mine upon the subject:—

"Let the individual medical man join the Alliance, or any other political clique, as soon as he likes; but in the name of common sense let him not endeavour by the force of sounding names to drag his professional brethren as a body into the mistake of joining any political party."—I am, Sir,

S. MESSENGER BRADLEY, F.R.C.S.

Manchester, Jan. 13, 1871.

To the Editor of the "Food Journal."

SIR,—In reply to Mr. G. Mellin's letter, in the January number of your journal, I am indebted to that gentleman for giving me an opportunity of correcting an error in the second part of my article on "Nutrition." On page 440, line 12, instead of "saliva" read "it."

For the information of critical readers, I must add that the stops enclosing the sentence "Fats are decomposed by a principle in the pancreatic juice, not unlike that in diastase," should be looked upon as a bracket. The context clearly demonstrates this intention, although I regret the brevity of the sentence, or rather the necessity for the condensation of many interesting paragraphs in Professor Foster's lectures. The products spoken of as changed into sugar are those mentioned in the sentence preceding the quoted one, and, in fact, those on which the chapter treats from the beginning, namely, starch, etc.

Speaking about food, as I professed to do in my article, and seeing that 1 oz. of ptyalin will help to digest more than a hundredweight of farinaceous matter, I think that I will leave the vague phrase "any quantity" as it stands; even Mr. Mellin's "more than 2,000 parts" is not definite enough, and I cannot accept it as an improvement.

Permit me next to turn to the facts which Mr. Mellin characterises as being perfectly established in physiological science. He objects to there being any ignorance about the active principle in saliva, and, in support of his argument, he quotes M. Mialhe's memoir to the French Academy on the discovery of animal diastase. *That*, however, Professor Foster did not mean by the term "active principle," nor did I allude to it with any such meaning in my imperfect synopsis of the lectures at the Royal Institution. I cannot here enter into a lengthy explanation as to the value of M. Mialhe's discovery, or point out how far modern science, and especially microscopic researches, justify Professor Foster's position regarding the present ignorance on the "active principle." Suffice it to say that diastase was not meant by it, and that Mr. Mellin might have known. For in one passage I wrote distinctly about a principle *in* diastase, and, unless that passage escaped his attention, it is difficult to see how he can say that the active principle, about which I wrote, was discovered by M. Mialhe, and was animal diastase. Curiously enough, the passage to which I refer was copied by Mr. Mellin, and quoted by him, and I have requoted it above.

There is one point remaining in your correspondent's letter which would require no small amount of space to deal with, and which is of such a purely physiological nature, that you would probably not be inclined to devote many pages to its elucidation. I mean the assertion of Mr. Mellin, that "there is no special digestive principle for fatty matter, as might be inferred by analogy, as regards the digestion of albuminous and starchy food."

Much might be said concerning this sweeping declaration, but, with your permission, I will merely call to mind the following facts. From whatever source the animal may derive its supply, it invariably builds up its own specific kind of fat; a ligature round the pancreatic duct prevents the digestion of oleaginous matter altogether, and the glands in the duodenum even resemble the secreting cells of certain salivary glands and mucous glands of the mouth.*

A dog fed on pork will never yield lard from his tissues; and bees fed upon sugar only have been found to generate wax. The irrepressible M. Mialhe also presented a memoir to the French Academy on the 3rd of August, 1846, in which I find the following:—"Having demonstrated that the transformation of starchy and albuminuous food is brought about by two special ferments, diastase

* Schultze's Archiv, 1871, p. 92, vol. viii.

and pepsin, it is natural to conclude, as I have expressed it in the preceding remarks, that nature, so admirable in the simplicity and uniformity of her agents, brings about the assimilation of fatty substances, constituting the third group of food stuffs, by a similar chemical action, by a special ferment."

I beg to conclude this rather long letter with one which I have received from Professor Foster on this subject, and to remain—Yours truly,

E. H. Fournier.

Trinity College, Cambridge,

January 21st, 1872.

My Dear Sir,—There can be no doubt that Mialhe's "animal diastase" was altogether an impure product—a mixture of proteid matter with the veritable "active principle" or "ferment," or whatever you please to call it. The proof of this assertion lies in the fact that you may separate the proteid matter from the mixture, and yet get action on starch, etc. What I said in my lectures about ignorance of the exact nature of the active principle in saliva or pancreatic juice (I mean the amylolitic or starch-converting principle) is quite true.

There is no doubt that pancreatic juice is of prime importance in the digestion of fats; there is no doubt that pancreatic juice, besides the emulsifying power which it shares in common with other animal fluids, has the peculiar property of splitting neutral fats into fatty acids and glycerine. This peculiar property *seems* to be due to the action of some ferment analogous to that of saliva and pepsin; but such a ferment has not ever been isolated to the extent which they have. It may be removed from pancreatic juice by saturation with magnesia (Danilewsky).

You are perfectly right in saying that dogs fed on pork do not produce lard. You will remember perhaps, my recital of some experiments showing that the fats taken as food very little influenced the nature, though much the quality, of the fat in the body. To speak the truth, we do not know in what condition the fats ever get into the blood. We can trace emulsifying and splitting-up going on in the intestine, but we have little or no knowledge of the condition of fats in the lacteal or portal system.—Yours truly,

M. Foster.

Smokers will be pleased to know from the report of Mr. Phillips, of the Inland Revenue Department, that tobacco was very extensively adulterated during 1870, 312 samples out of 432 having been weighed in the balance and found wanting, the adulterating materials being wheat, rice, starch, sugar, liquorice, lampblack, and colouring-matter. With the exception of the lampblack, with the taste of which we are not acquainted, the offending matter was not very deleterious, and perhaps in many cases did more good (or less harm) than the real cavendish, which was the tobacco usually selected for practising on. The report on the beer is less satisfactory, for out of 14 samples examined nine were adulterated with sugar, treacle, ground rice, liquorice powder, grains of paradise, and (in one instance) tobacco. It will be allowed that adulteration of 65 per cent. of the samples is a tolerable allowance, and we have very little doubt that from the smaller class of breweries a vast amount of poisonous matter is constantly poured forth, to be further improved by the "doctor" and the publican.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

PURÉE DE LEGUMES.

Boil in some stock with a bundle of sweet herbs, pepper, salt, and spices to taste, any combination you like of such vegetables as carrots, turnips, potatoes, parsnips, leeks, onions, peas, Jerusalem artichokes, etc. When thoroughly done, pass the whole through a fine hair sieve. Mix in a saucepan a piece of butter and a little flour, then add a little of the purée, and when this is well mixed add the rest. Finish by stirring in, off the fire, a couple of yolks of eggs strained and beaten up with a little milk. Serve with or without tiny sippets fried in butter. N.B.—The above is one way of making use of the trimmings of vegetables produced by cutting them up with fancy cutters.

FILETS DE VEAU A L'ITALIENNE.

Cut from a piece of leg of veal some nice fillets, three-eighths of an inch thick, sprinkle them on both sides with pepper and salt, and lay them flat in a tin, with plenty of salad oil. Put the tin in the oven just long enough to cook the fillets, then drain and arrange them in a circle on the dish, with the following sauce in the middle:—Fry in a little salad oil a couple of shallots, minced fine; when they are a pale straw colour add two or three mushrooms and a little parsley, minced in the same manner; then moisten with enough stock and white wine in equal parts to make the sauce; add pepper and salt to taste, a clove of garlic, some sweet herbs, and a bay leaf tied up in a bundle. Let the sauce boil half an hour, and remove the bundle. Melt a piece of butter, add a very little flour to it, then the sauce, stir it well on the fire, and it is ready.

CRAPPIT HEADS.

A Scottish dish, of which the name signifies *stuffed heads*. It consists of the heads of haddocks, stuffed with a mixture of oatmeal and suet, flavoured with onions chopped small, and pepper, to which the roes of the haddocks are sometimes added. The heads are then placed in a pudding dish with a little suet, sprinkled with oatmeal, and baked in an oven. This was formerly a favourite supper dish in Scotland, and is mentioned in "Guy Mannering" as one of the good things prepared by the landlady of a village inn for a guest to whom she wished to show particular attention. Although a very pleasant dish, it has, however, fallen much into disuse.

OMELETTE AU PARMESAN.

Beat up three eggs with pepper and salt to taste, and a tablespoonful of grated Parmesan cheese; fry a light colour, and serve with plenty of grated Parmesan strewed over the omelet.

NOTES OF THE MONTH.

We are very glad to observe that at a recent meeting of the City Commissioners of Sewers, it was resolved to apply to the Government to introduce a Bill into parliament, during the present session, to authorise the seizure and destruction of spurious tea. It is full time that the legal difficulties should be swept away which have hitherto interposed to prevent the action of the sanitary officers, and that the fiscal scruples of the Customs should be made to give way to the paramount necessity of preserving the public health, which with some of our statesmen appears to be quite a secondary consideration. We trust that no opposition will be placed in the way of passing so excellent a bill, although the jealousy of "vested interests" is so overpowering, that we shall feel no surprise if such is the case.

From a report by M. Moison to the Academy of Sciences, it appears that all along the channel coast of France sea-water is used for the dough in bread-making, and answers very well, although it is not successful for other culinary purposes. It was suggested that the cause of this was that the chloride of magnesium, which gives the sea-water the salt flavour, is decomposed at the high temperature to which bread is exposed in the oven, and magnesia formed instead. M. Boussingault stated that in America sea-water is rendered available for ordinary cooking, by mixing a little cane-juice. This information is worth acting upon by dwellers at the sea-side, where fresh water is sometimes difficult to procure.

A case of fraud, such as we believe to be of very common occurrence in the article of butter, was tried the other day in Worcestershire. A farmer's wife sold some butter to a dealer, and upon examination by Mr. A. E. Davies, the County Analyst, it proved to be what is called "cased"—that is, to consist of an external layer ¼ of an inch thick, and an internal portion. The former was good butter, but the centre was mixed to the amount of about 18 per cent. with caseine, or the cheesy element of the milk, causing the whole mass to be exceedingly liable to putrefaction. It is as well that butter purchasers, who believe in the primitive innocence and honesty of the country, should be on their guard against these little arrangements; for it is to be feared that adulteration is carried on just as unscrupulously, though not so scientifically, amongst the fields as in the towns.

The alterations now going on in Covent Garden (and not before they were wanted) suggest an interesting antiquarian retrospect as to the old taverns of this locality, which immediately after the Restoration became the receptacle of bullies and all kinds of vicious characters. L'Estrange alludes to the notoriety of the "Fleece" tavern, on the west side of Bridges-street, where the quarrels were furious and frequent. He makes one of his heroes, a bully, to say, with more force than politeness—"I was never well, but either at the 'Fleece' tavern or the 'Bear', at Bridge Foot, stuffing my guts with food and tipple, till the hoops were ready to burst." Aubrey, another writer, observes that, "The 'Fleece' tavern in Covent Garden was very unfortunate for homicides: there have been several killed there in my time." The bad character of the house, however, did not seem to affect it much; for we find that the churchwardens' account for Easter, 1658, contains the item—"To Mr. Clifton, of the 'Fleece', 3*l.* 13*s.* for wine for the last yeare." Mr. Clifton's wine was evidently better than his Christianity.

The growth of elderberries seems to be an important branch of culture in Portugal, judging from the following paragraph which we extract from a recent report of our own Consul at Lisbon. He says: "The steadily progressive export of dried elderberries, which are employed, as is well known, in giving colouring matter to certain descriptions of port wine, may well suggest doubts as to the genuineness of much of the 'fine old port,' of which the annual sales in London probably exceed the total growths of the port wine district of the Douro." From this it would seem that an organised system of adulteration exists at head-quarters, so that we have little or no chance of protecting ourselves.

It appears from a report of the British Consul at Rio de Janeiro, that the taste of the Brazilians for beer has been on the increase for some years. There are several breweries where a very good description of weak beer is made at a moderate cost. The worst feature, however, of this manufacture is, that large quantities of forged labels and trade marks of the first English brewers find their way into Brazil, and are placed on bottles filled often with an inferior native beer, for which the price of English beer is asked. In the country districts an ostensible bottle of Bass' is to be regarded with great suspicion.

Cattle Trucks.—We are glad to be informed that Mr. Reid's cattle trucks for feeding and watering cattle during transport by railway, securing them from inclemency of weather, and from joltings by concussion of trucks, are rapidly coming into general use on the Austrian railways. The Austrian Government having, after carefully conducted experiments, decided in favour of Mr. Reid's truck, as vastly preferable to the cattle trucks previously in use, and the only one of all proposed by inventors which was really capable of serving its purpose well, the "Empress Elizabeth Railway Company"—a company whose lines are in the west of Austria, and of which the shares mostly belong to government—agreed to provide 1,000 cattle trucks within a year, to be manufactured by a waggon-manufacturing company in Vienna, paying a royalty to Mr. Reid of £10 for each truck, the Austrian Government guaranteeing the payment. More recently, we understand that another company in Vienna has offered to construct 2,000 trucks on the same terms. We are very much pleased by Mr. Reid's success, more especially as it comes after many years of persistent effort in what he deemed—and we also deem—a good cause. Much credit is due to him for his perseverance in opposition to obloquy and ridicule, and now we are glad to find that he already enjoys a reward greater than that of many inventors whose inventions have been of more use to mankind. His reward will probably become much greater as his invention is introduced in other countries, and especially in our own, in which it ought, first of all, to have been appreciated. We hear that others are now ready to propose improved cattle trucks, providing for supply of food and water; but if they should be ever so much better in their adaptation for this object, to Mr. Reid must belong the credit of having advocated the object itself when few else seemed to care about it. Let us, by all means, have the best possible truck; but let us at all events secure the object, which they have already secured in Austria. It is high time that our railway system of transport of animals was amended.

We have just received, almost at the moment of going to press, the new Bill proposed to be brought before the House of Commons by Messrs. Muntz, Whitwell, and Dixon, to Amend the Law for the Prevention of Adulteration of Food, Drink, and Drugs. In our next number we hope to be able to give the results of our examination of this Bill, though, from the first glance, we are not sanguine of its being any great improvement on the *fiasco* of last year.

NOTICES OF BOOKS.

"NOTES ON VOUVRAY AND SAUMUR." By A. H. Browning, Lewes.—Some interesting facts as to the manner in which the lower classes of French sparkling wines are bottled and sold as champagne are at present before us, in the shape of a pamphlet from the pen of Mr. Arthur H. Browning, of Lewes, entitled "Notes on Vouvray and Saumur." During his travels in France, the author was informed that a manufactory existed in Bordeaux for the conversion of common white *vin ordinaire* into champagne, by sweetening it and impregnating it with gas, the product being sold at 14*s.* per dozen. He also knew that in the west of France real wines were produced, especially in a small district round Tours, which bore a striking resemblance to champagne, and which were sold as such, with labels attached, bearing the names, real or imaginary, of firms at Rheims and Epernay. Mr. Browning was induced to investigate the properties of "Vouvray," which he found had competed successfully at the Paris Exhibitions with other sparkling wines of France. He appears to have been so deeply impressed with the qualities of the wine that, after taking the advice of several connoisseurs, and notably of Mr. Beckwith, of Great Tower-street, a gentleman well known as a successful wine-taster, and one of the Associated Jurors of the Exhibition, he decided to secure the sole agency for England of one of the best brands, and to introduce its use, openly and avowedly, under its own name, and at a price which should be within the reach of all.

In sending us a copy of his book for review, Mr. Browning also submitted a set of samples for examination by our analyst. His report is favourable, and we are sure that Mr. Browning will reap the reward that he deserves for honestly calling a "spade a spade," in introducing his wine under its own name, and not countenancing the frauds which he so justly deprecates. The wines sent represented three qualities of Vouvray—First, "Natural Vouvray," a wine containing only a moderate per-centage of alcohol, and free from the sweetness so objectionable in many so-called cheap champagnes. We fancy that this wine would be suitable for employment by medical men, in cases where the administration of sparkling wine is deemed desirable in families of limited means. In this idea we are borne out by the *Medical Times and Gazette*, which says:—"There is no doubt that for exhilaration under temporary depression a sparkling wine is as effective and wholesome as it is agreeable: during convalescence from fevers, for instance, and when the appetite of aged and feeble persons is failing. The sagacious medical practitioner who attends persons of moderate means will be glad to recommend them a wine that will suit the stomach as well as the pocket." Numbers two and three, named respectively "Dry" and "Medium," were wines containing more strength and body, and exactly similar to much of the dry champagne at present in the market. In conclusion, we would recommend such of our readers as may be desirous of using sparkling wines of moderate price, rather to patronise an article like "Vouvray," well matured and well made, and sold honestly under its own name, than to buy the same thing, in a "doctored" condition, under the title of champagne, and with probably ten shillings a dozen added to the price for some imaginary brand.

BOOK RECEIVED.

PAPER ON INFANT ASYLUMS. By Professor Jacobi, M.D. New York: Appleton & Co.

THE

FOOD JOURNAL.

FOOD ADULTERATION.

WHETHER the suppression of the adulteration of food and drink is one of the necessary or optional functions of Government, is a question which will always afford subject-matter for debate. Commercial men and manufacturers naturally contend that the consumer should protect his own interests, and that harmless adulteration is only a mode of healthy competition, which is made to confer benefit on the public by causing a reduction in the price of goods proportionate to the extent of the adulteration. The general public, on the other hand, are strongly of opinion that the Government should protect them against adulteration of every kind, in the same way as laws are in force for the detection of frauds in weights and measures, for sanitary purposes, and for the destruction of unwholesome food, and that the same care should be exercised in repressing food and drink adulteration, as is now the case with respect to articles subjected to excise duties.

It is not a difficult task to perceive that self-interest guides both the commercial men and the public in arriving at their conclusions perfectly. The former know that adulteration is a cover for making large profits in trade, and the latter, although well pleased to purchase goods at a low price, are yet of opinion that the genuine article should be supplied to them at the price charged for the adulterated one. In the case of many commodities of daily consumption, adulteration prevails to such an extent that the commercial article is retailed at a lower price than is paid by the wholesale dealer for the genuine one. Cases like these afford proof that much may be said both for the manufacturer and the general public; for, while the former may argue that he cannot obtain a proper price for a genuine article, the latter may with equal truth say that if the manufacturer had always supplied genuine goods, trade would not have been in the unsound condition in which it is at present.

Self-interest has ever been a dangerous guide in public matters, and as long as this infirmity of human nature is the rule of life of

public men, the majority of whom belong to the commercial class, no steps will be taken to suppress adulteration. Public opinion is now, however, directed to the adulteration of drink, by the proposal made by Mr. Bruce for the Government to undertake the management of it. It is needless to dwell upon the stormy discussions which have taken place respecting some of the provisions of the Bill, or the reason why it was abandoned last Session so early after its introduction into the House of Commons; but it is satisfactory to observe that in all these discussions not one word has been said against the strong clauses for the suppression of adulteration. On the contrary, Mr. Bruce has been praised both by the public and by the most respectable and influential brewers in the kingdom for his courage in grappling with the question of drink adulteration, and the community will gladly pay the money required to supply the necessary machinery for carrying out these provisions of the Bill. There is now every reason to believe that, as the objectionable clauses are to be eliminated, before the close of the Session the Licensing Bill will have become law. If such is the case, then there will be a *workable* Act of Parliament for putting down the adulteration of drink; but the adulteration of food and drugs will remain in its present anomalous state. Truly there are several Acts now on the statute-book supposed to regulate food adulteration; but although they have been shown in previous numbers of this Journal to be quite useless, it will be necessary in a subsequent part of the present article to go once more into detail to endeavour to direct public attention to the subject. If Mr. Bruce's Bill be passed, the general public will provide money to protect the drink of the drunkard with the most extreme care, and will enable him to obtain, at any public house which he may patronise, pure beer and spirits; but the drunkard's wife and children will still be compelled to buy bread that may be adulterated with alum, coffee with chicory, milk with water, butter with lard, and so on through the whole list of articles of domestic consumption.

The commercial man will say that there is a great difference between the adulteration of drink and food, as, the first being an exciseable commodity, a fraud is practised on the revenue, and in the other case it is not. Well, there is this difference, certainly; yet the difference in the two cases points to the fact that if the drunkard must have his luxuries protected against adulteration out of the imperial funds, it is far more the duty of the State to protect the drunkard's wife and children, and other helpless members of the community, by providing suitable machinery whereby the dealers

in the necessaries of life shall not only be liable to penalties for the possession and sale of adulterated food, but also that the discovery of the adulteration and the punishment of the offender shall be duties undertaken by the Government.

This view of the question is very pithily put in the report of the Committee of the House of Commons on the adulteration of food in 1855. They say—"Whenever an article is so adulterated as to involve pecuniary fraud or injury to health, it appears to your committee to be the duty of the Legislature *to provide some efficient remedy*." To show the weight of this expression, it is necessary to state that the Committee had taken the evidence of most of the scientific men of the day on the subject of adulteration, and also had made themselves well acquainted with the laws of different countries in Europe on the same subject. They were, therefore, strongly of opinion that the whole question of adulteration ought to be taken up in such a comprehensive manner by Parliament that an efficient remedy should be provided. They do not in so many words say that this remedy ought to be provided by the State, but the sequel will prove that State interference is the only mode of carrying out efficiently the suggestions of the Committee, as all attempts at legislation on the subject, apart from Government interference, have hitherto been lamentable failures.

Before suggesting the machinery necessary for the proper working of an Adulteration Act, the whole subject will be made more clear if a short history be given of what has been done up to the present time in the matter of food adulteration. Bread and flour seem to have been the first substances to which public attention was directed, and the Act 3 Geo. IV. c. 106 was passed to prohibit, within the bills of mortality, the mixture of alum with bread. The Act 6 and 7 William IV. c. 37 extended the same provisions to the country, and distinctly set forth from what materials bread could be legally made. It also provided that bread when made from mixed meal or flour should be marked with the letter M. Although these Acts are now in force, and persons offending are liable to fine, imprisonment, and publicity of the offence by advertisement, yet, as the Act is under the management of magistrates and peace officers, very few convictions take place, on account of the inability of such persons to prove whether the bread or flour contains prohibited ingredients.

From the time that the Bread Act was passed till 1851, little was done towards directing public attention to adulteration, but in that year the reports of the "Analytical Sanitary Commission" of the *Lancet* were first published, and these reports were continued until

1854. It is questionable, however, whether action would have been taken on these reports, especially as some scientific men considered they were rather more sensational than useful; but at the beginning of 1854, Mr. Postgate, a Birmingham surgeon, drew the attention of Mr. Scholefield, member for that borough, to the state of the bread and other articles of domestic consumption sold in Birmingham, and suggested to him the necessity of an Act of Parliament for the suppression of adulteration, and the appointment of a public analyst to carry out the provisions of the Act.

Mr. Scholefield was at once interested, and in order to obtain correct information on the subject, he brought the matter before the House of Commons, and asked for a committee of enquiry. This request was complied with, and the Committee commenced their labours in July, 1855.

During the Parliamentary Sessions of 1855 and 1856, the Committee sat frequently and examined many witnesses, including scientific and commercial men. The minutes of evidence were embodied in three books, containing 615 pages, and the last included the report of the Committee.

The evidence given proved that of foreign products many arrived here in an adulterated state, and others were adulterated after their arrival. Of the commercial products of this country, many were found to have been adulterated by the manufacturers and wholesale dealers, and others by the retail tradesmen. There was much difference of opinion expressed by the witnesses as to the extent of adulteration; but the Committee reported that adulteration very extensively prevailed in the case of food, drink, and drugs, and, by way of illustration, they supplied a list of leading articles commonly adulterated, with the substances used as adulterants. Of the list of adulterations given, the Committee classified them under the following heads, viz.:—

1. Those of which the object was to lower the prices of the article adulterated by the admixture of substances of a cheaper kind.
2. Those intended to improve the appearance of the adulterated article, and thus to deceive the public as regards quality.
3. Those which were practised for the purpose of simulating some property injured or destroyed in the process of adulteration.

The adulterants themselves were of two kinds, being either of a harmless character or injurious to health in a greater or less degree

The commentary of the Commissioners on these adulterations was rather remarkable, for they stated that if the articles adulterated with harmless substances were sold at such a low price that the public got the full benefit of the admixture of foreign matter, then "it would be difficult, if not unwise, for the Legislature to interfere, unless it could do so by requiring that every such article be sold as a mixture, as distinguished from the article in its pure state." In the case of articles adulterated with hurtful ingredients, it was suggested that the Legislature should provide some efficient remedy.

The remaining part of the report contained a summary of the laws on adulteration in other countries, especially in France, Belgium, Germany, and the United States, a few suggestions as to what would be desirable to be done to suppress adulteration, and, in conclusion, the Committee directed attention to the evidence given "concerning patent medicines, the sale of poisons, and the state of the pharmacopœias of the three kingdoms."

In the "Foreign Office Reports" in the *Food Journal*, a full account has been given of the Adulteration Acts in force in many countries, and much valuable knowledge may be gained from them by those of our legislators willing to grapple with adulteration. To show how backward we are in this country, it may be stated briefly, by way of contrast, that under the laws of foreign States the vendor of any adulterated alimentary or medicinal substance, has long been seriously punished by fine and publicity, whilst in this country there was no Act against the adulteration of drugs till 1868; and as for food adulteration, it is notorious that a person cannot be punished for such an offence.

In the United States the Government have passed special laws "to prevent the importation of adulterated and spurious drugs and medicines." None are allowed to pass the Customs unless they have been examined by the proper analyst, and the packages containing them must have the name of the manufacturer, and the place where the drugs have been prepared, permanently and legibly affixed to each parcel.

R. BANNISTER.

[TO BE CONTINUED.]

ACCORDING to M. Schädler, only half the quantity of finely ground coffee is needed in order to produce the same strength of beverage obtained by the ordinary coarse-ground article. If, after Oriental fashion, the ground coffee is crushed fine in a mortar, only two-fifths of the coarse is needed. Infusion, boiling, or filtering through a bag, all have the same result as regards strength, except that by filtering the aroma of the coffee is better preserved.

CANCERINE.

Cancerine, or, in other words, "squashed crabs," makes an excellent manure; and as everything that relates to the production of food comes fairly within the province of the *Food Journal*, let us talk a little about this cancerine, as it is rather a new thing to us, though the manufacture has been carried on in America for the last sixteen or seventeen years.

There is a very small portion of the coast of the little State of New Jersey, U.S., not far from Cape May, which is infested during the months of May and June, and at no other season of the year, by swarms of huge crabs, about the size of a large soup-plate, and certainly the ugliest creatures in creation, be the next what they may. The flesh is too coarse and strong for food, and their *raison d'être* had, until the last few years, not been very apparent. A "happy thought," however, struck a gentleman who was strolling on the beach, wondering, perhaps, for what purpose these animals were created; that, although not good for food themselves, they might become a cause of food if applied to the land; for he observed that the shell was not of a calcareous nature, like the common crab, the lobster, etc., but was *horny*, and therefore, probably, contained a large quantity of ammonia, which, as every one knows, is a most material element in manure. Having satisfied himself upon this point, the next step was to secure so large a share of the profits of his discovery as would repay him for putting up machinery. This he had no great difficulty in doing, for, like a wise man, he kept his idea to himself; and as no one had ever conceived that there could be any possible value attaching to these great, ugly, crawling things, he secured for a very small sum the sole right of collecting them from some two miles of beach, or bought the beach itself, I am not sure which.

He then set up a crushing-mill, and employed people to gather the crabs, which are speared and thrown into waggons, just as our agricultural labourers pick up turnips to throw into the turnip-cutter; and they lie almost as thick as turnips in a field, being found literally in myriads. They are then thrown together in heaps, the base of each heap being surrounded with hurdles to prevent their escape. Here they die a slow and cruel death from suffocation, much as the pearl-oysters in Ceylon do, and it will be

easily imagined that they do not emit a very agreeable odour in the process, though they do not putrefy so much as one would expect, but rather dry up, thereby losing about four-fifths of their living weight, or rather less. They are then thrown into the crusher and torn to pieces, but not being dry enough to grind, they are further kiln-dried, after which they are reduced to powder. This powder is "cancerine," which is worth about 6*l.* a ton at the mill, and is in great demand amongst the fruit-growers in Maryland and Pennsylvania, about whom I may have something to say in another paper. Last year some 400 tons of it were made, and considering that the crab harvest only lasts two months, and that their visit is confined to so small a portion of the coast, this will show how numerous the creatures are. As to their eggs, one may almost say that the sand of the beach *is* eggs; and there is a story of a ship captain, who was unacquainted with the peculiar character of the beach, loading his vessel with what he supposed to be some particularly nice clean sand. On the voyage the eggs were hatched, and on arriving at his destination he found that he had a *live* cargo to deliver, which the port authorities declined to receive, and ordered the ship out to sea, to the poor man's great consternation.

One would have supposed that the same shrewdness which detected a possible value in what others had passed unnoticed would also have recognised the importance of carefully husbanding the supply of raw material for this novel manufacture, but the story of the goose that laid golden eggs is one that finds a wide application. No sooner was Esparto grass found to have a value for paper-making than the greedy but lazy owners tore it up by the roots, in their eagerness to make a present gain, thereby destroying a permanent source of income. The same thing is taking place with these crabs. Not only is the voracious crushing-mill destroying the parent crabs by the million, but the eggs, which should be carefully cultivated, are scooped up by the bushel and thrown to the pigs and poultry.

Looking to the great and increasing value which our high-pressure scientific farming gives to everything that tends to renew the exhausted producing-power of the soil, it is a point worthy of the notice of our scientific men whether we cannot find on the rocks and beaches of our own coasts the means of carrying out the hint which New Jersey has given us. In a densely-populated country like ours there certainly ought not to be any waste, either of food or of food-making material.

George Walters.

THE DISEASES AND DEFECTS OF WINE.

Paper I.—Preliminary Remarks.

In the following short series of Papers an attempt has been made briefly to epitomise the observations upon *Diseases* and *Defects* in Wine, contained in the second part of De Villa-Maior's excellent *Tratado de Vinificaçao*,* a work to which reference has already been made, upon more than one occasion, in these pages. Of a purely practical character, and without any pretensions to exhaust a fertile and very imperfectly understood subject, the observations referred to contain much of interest and utility to the Colonial wine-grower and to the home consumer—much, it has seemed to the translator, that might advantageously be communicated to readers of the *Food Journal* unacquainted with the original work.

In the first place, a few words must be said in explanation of the terms Disease and Defects in Wine. We all know that wine—even the best and most carefully-made wine—will *not* remain in one and the same condition for an indefinite period of time. Year by year, under the influence of certain internal impulses, it acquires new properties. These changes are normal and regular, a part of the ordinary vital round of every wine; and, moreover, within due limits, they are beneficial in their action; in other words, wine "improves with age" within a certain period, the duration of which varies with the wine. But there are other changes of an abnormal character, uncertain in their occurrence and injurious in their action, to which wines are also subject. Such are *acetation*, in which the alcohol in the wine turns to vinegar; *turning* or *rising*, common in spring-time in badly-made or improperly-treated light wines; *bitterness*, an affection to which the finest Burgundies are very subject; *ropiness*, a common disease of Champagnes; *Agre-doce*, literally, "sour-sweetness," a form of malady unnoticed by any preceding writer, but well known and greatly dreaded by Portuguese growers. These are, one and all, *Diseases;* they profoundly affect the wine they attack, render it wholly unfit for consumption, and, unless checked betimes, lead to its utter disorganisation and decomposition.

Minor affections of a superficial character are known as *Defects.* A wine may be defective through the absence, or the presence in excess, of certain natural qualities, or through the acquisition of

* "*Tratado de Vinificaçao.*" Second part. Lisbon, 1870.

others foreign to its nature. Such, amongst others, are want of colour; too great astringency, or its converse, undue softness; excess or deficiency of strength; peculiarities of taste and smell, as the taint sometimes imparted to wine by casks of new wood, or by the pig or goat-skin wine-bags, so well remembered by every wanderer whom fate has led into the bye-ways of the Peninsula; or by the practice of *pitching* the outside of the wine-jars, common in Italy and Greece; or through the use of bottles of cheap inferior glass; and the like. These, although objectionable in their way, are, as we have said before, more superficial in their effects, and more easily remediable; in the majority of cases they do not render the wine wholly unfit for use, neither do they involve its ultimate decomposition and destruction.

Of the supposed origin of the several forms of disease above enumerated, of their treatment—preventive as well as remedial—we shall speak more at length in the subsequent papers of this series. We may observe, however, that the theory now most generally accepted ascribes the existence of Disease in Wine to the influence of certain varieties of ferment analogous to, but distinct from, the alcoholic ferment by whose agency grape juice is transformed into wine.

Besides scrupulous cleanliness in all the operations of vinification so as to avoid the introduction of any foreign substances in the wine, and the prevention of all unnecessary exposure to the air by keeping the casks well filled and securely tamped, the hygienic treatment of wine includes "clearing" or "fining" with glue, isinglass, white of egg, or fine clay, by which the impurities, organic and inorganic, suspended in the wine are carried to the bottom; "racking," by which the *lees*, or sediment formed either naturally, or artificially by "fining," is separated from the liquor; "sulphuring," by which the casks intended to receive the wine, and sometimes the wine itself, are impregnated with the fumes of burning brimstone, with the object of destroying any noxious germs contained therein; "brandying," of which we have spoken in a previous paper; and two other processes, which require a somewhat more lengthy notice. These are refrigeration and the heating process.

We know that extreme cold, like excessive heat, is injurious to organic life. Now, it has been found that the microscopic germs which are held to be the immediate causes of fermentative action may be deprived of their vitality by exposing them to a temperature above 112° Fahr., or below 21° Fahr. Hence the idea of subjecting wine to a process of refrigeration.

The process is not well suited to the majority of wine-producing

countries, nor has it, we believe, as yet, received any extended application, but, in cases where it can be conveniently adopted, the Viscount de V. Maior holds it to be both cheap and efficacious. The growth of cryptogamic vegetation in the wine is at once arrested, whilst at the same time, much of the albumenoid matter held in suspension therein, together with some of the colouring matter and tartar, and a certain proportion of the water, are solidified, so as to admit of their separation from the wine. A moderate *refrigeration* is thus tantamount in its effects to a vigorous "fining" and a light "brandying," and these results are attained without the introduction of any foreign ingredient.

The heating process has long been used in Portugal, in Madeira, and at some of the Mediterranean ports, for accelerating the *maturing* of *strong* wines. Through the efforts of the distinguished French chemist, Pasteur, its application to the conservation of *light* wines has latterly become very general. The process is effected in various ways, according to the end in view; sometimes the wine is placed for a longer or shorter period in heated vaults or ovens; sometimes it is warmed with the aid of hot-water apparatus, or the hot-water bath; sometimes it is exposed in bottle to solar action. Its advantages are summed up by our author as follows:—

"The preservation of certain sorts of wine from the ulterior changes and affections to which they are peculiarly subject, and the amelioration and maturation of other sorts, have unquestionably been greatly facilitated by the practical adoption of this process.

"With natural-made white and red wines of medium alcoholic strength, good body, and rich in extractive matter, and also with some delicate and higher class wines of the same description, artificial heating to a temperature not exceeding 120° to 140° Fahr., during a comparatively short space of time, which never should exceed a few minutes, appears sufficient to destroy the germs of ferment and to enable the wine to resist the effects of ulterior movements and changes of temperature to which it may become exposed during carriage by land or water.

"With strong white wines, partaking more or less of the liqueur character, and with certain red wines of the same class, heating by exposure to the sun in well-stopped glass jars not quite filled, and, consequently, in contact with a very minute volume of air, will improve, clear, and age them in a comparatively short space of time, which never need exceed one month.

"Weak and watery wines would not be worth the trouble of heating, as they generally are consumed before they can undergo any important change."

The Viscount de Villa-Maior, on the authority of M. Pasteur, recommends an apparatus designed by M. Rossignol, of Orleans, as one of the cheapest and best for ordinary wines. It costs 140 fr., and will heat 6 *hectolitres* (132 gallons) of wine per hour, at the rate of 10c. to 12c. per *hectolitre* (about one penny for every 20 gallons).

H. M. Chichester.

MAD VEGETARIANISM.

In the wake of every revolution struts a troop of reformers and apostles, who have each a flag and a panacea in their pockets. Their invariable motto, *Sauvons l'Humanité*, announces all kinds of regenerative plans, from a patent pill to a Phalanstère; and humanity laughs at them for the most part, and does well. But there are some few poor Utopians crying aloud in the desert, who have certain qualities that excite sympathy, and these few are more numerous than is generally supposed. Raymond Brucker said, in 1832, "*On ne peut pas ouvrir sa fenêtre sans cracher sur un apôtre;*" and to the best class of these reformers belonged Jupille, the Vegetarian.

Every saviour has necessarily a pamphlet—unknown to the outer world, and inscribed among the publisher's losses—but very sweet and familiar to the simple soul that brought it forth. That of Jupille may be occasionally found on the Paris quays, in the boxes at one sou. It is worth the sum, were it only for the following startling axioms: "The onion is the eye of man. God has endowed us with such a sensibility towards the onion that we weep in peeling it; this is in order to show how many tears it has shed before being reduced to the point where we behold it. If man had only studied the onion, I am sure he would have found it composed of as many layers as are in the eye; he would have seen that the sensibility of the onion has a natural relation to that of the eye. There are onions of all colours, even as there are eyes." From this insane extension of the doctrine of analogies the author might be considered a Fourierist—a Phalansterian. But no, Jupille was the disciple of M. Gleïzés, whose system was founded on the Pythagorean doctrines. Utopias are seldom new. Aristophanes laughed long before we did at communism and woman's "emancipation." M. Gleïzés was during forty years a rabid and uncompromising enemy of meat. He published several volumes to advocate, or rather celebrate, the *régime des herbes*. J. J. Rousseau was a little on his side, but he did not unite practice with his theory; whereas M. Gleïzés was in solemn earnest, and separated from a wife whom he loved, solely because she evinced an unconquerable predilection for flesh and fowl. The author of "Thalysie; ou la Nouvelle Existence," believed the more implicitly

in his system, that it was created by inspiration, he having been awakened one night by a voice that cried: "Gleïzés means Eglise; be thou the priest of that church." He died after having published some eight or ten eccentric sermons on the advantages of his religion.

None could have supposed that he had made one proselyte, until some time after his death there appeared the brochure of Jupille le Thalysien—a surname adopted partly out of respect for the master, partly to recall the festivals of Ceres, to whom were offered fruits and corn.

During the Revolution of February, Paris was placarded with strange advertisements, and flooded with stranger pamphlets. One of the latter was entitled, "Aux Gourmands de Chair." It contained the most extravagant absurdities. Eaters of flesh read: "You are not men, you are beasts. Jesus Christ ate no meat; meat is *atheistical;* fruits alone contain the true religion. I shudder when I see a butcher at his counter; his complexion is carnivorous. Every day the nutritive gas of poor slaughtered animals enters his pores. What you call fresh colours is the fruit of a massacre of innocent creatures. The *régime des herbes* is the antidote for all ills. Man is burnt by meat: beef, mutton, and veal calcinate his stomach; thus is his carnivorous voracity punished." Such was the tone prevailing throughout the pamphlet distributed all over Paris eight days after the February revolution. The whole was signed, "*Jupille le Thalysien, 77, Rue du Cherche-Midi*"; and in a footnote the author desired all intending converts to *innocence* to seek conversation with him at the indicated address. The regenerator's temple was nothing more than a greengrocer's shop. But such a shop! It was arranged with veritable artistic taste. Large cabbages crowned with virginal circlets of fresh eggs, onions with changing skins, made the passer-by wink and marvel at their dazzling glitter. Turnips were spread in close battalions, sustained by a rearguard of stained eggs. Above all, the carrots stood erect like notes of admiration, and milk and cream slept in pots of varnished clay. With these things were mingled green herbages of different tints, which served to relieve and harmonise the cruder colours. We have remarked that greengrocers' shops are, as a rule, tasteful and consolatory: this one would have tranquillised the soul of Sisyphus. Jupille's face was a living panegyric of his system. It had tints of milk and rosebuds, and was rounded as a cherub's cheek. He pretended to have been growing young again ever since his departure from the traditions of his earlier days; he declared that he only needed

money to obtain innumerable proselytes, by giving gratuitous dinners. The only way left was that which he had adopted, namely, the foundation of an improved greengrocery establishment. He was happy in his poor predication. He sold at almost cost price, and boasted that fewer customers went to the butcher since he had illuminated the neighbourhood. He gave gratuitous instructions to all the cooks of the *quartier* as to the dressing of divers herbs. Jupille maintained that meat had been the perdition of all animals; explaining in this curious way the carnivorous instincts of the tiger and hyena. He demanded an authorisation to submit the lions, bears, and eagles of the Jardin des Plantes to a vegetable diet of his own arrangement, promising thereby to bring them to a state of innocence, though it is needless to say that the State refused to comply with the theorist's request.

In the main Jupille founded his creed on the Biblical prohibition to eat fat and blood, and other citations which might be twisted to serve his purpose, such as Jesus' answer to the Pharisees, resolutely ignoring, of course, the passage which speaks of St. Peter's dream of many birds strung on a fillet, and of the command given him to eat of them, and all similar teachings. He deduced a moral in favour of his creed from every possible circumstance—asserting, for instance, that the "ladies" of the Halle aux Poissons, and the Marchè aux Legumes, differed in every moral and material respect. And it is strangely enough a fact that the latter *marchandes* are notoriously more polite and better favoured than those of the Parisian Billingsgate.

It was less to the flavour than the *influence* of flesh that Jupille objected; he had secrets for the arrangement of tomatoes and chesnuts that entirely altered their taste. He used little powders in his cookery, which, says M. Champfleury, produced a marvellous effect, but the composition of which is now unhappily unknown. All who have partaken of Jupille's preparation—and if they are not numerous, they are enthusiastic—agree in speaking of his *cuisine* as excellent as it was original. In the preparation of soups, for instance, he did not obey the rigid laws of Julienne, which require the component vegetables to be minced finely, but essayed, as far as possible, to give to each carrot, turnip, etc., a distinct and independent character, or personality, as he would have it. Champfleury tells the story of a dinner with the Renovator, in which he says that he had never tasted "so pure and innocent a soup" as that which came from Jupille's saucepan. After the potage he was regaled with an enormous cabbage, which, on being opened, disclosed a golden paste, skillfully introduced in every cavity of the

vegetable. Grimod de la Reynière or brilliant Brillat could not have composed panegyrics worthy of this invention. The dish was called *chou à l'étouffée.* Cauliflowers were served in a special *sauce honnête* as the chef described it, which had the delicate colour of tea roses.

The camel that lived for a century, and the elephant for two, were constant examples to Jupille of the advantages of herbivorous diet. The father of De Balzac, the novelist, was another model dear to his heart. De Balzac was accustomed to rise early every morning, walk into the woods and make incisions in the young trees, whence he drank the gum sap, which, said he, was to enable him to live one hundred and fifty years. He was mistaken in this, as also in his prophecy of his meagre son, that he would "never do any good, never live long." Jupille asserted that a friend of his, following his system, had made a pigeon eat meat like an English woman, and an eagle eat herbs like a hermit.

Evelyn Jerrold.

THE SONG OF THE ANCIENT TURNSPIT.

Turnspit.—He who anciently turned a spit, instead of which jacks are now used.—*Johnson's Dictionary.*

A bird on the wing,
A smile from the king,
The reddest red-letter day;
An April shower,
A woodbine bower,
The sunniest morn in May;

A word in the *Times*
Praising my rhymes
(A fig for the *Weekly Post!*)
A gift unexpected
From friend oft neglected,
Woodcocks done upon toast.

These things I adore,
Besides many more,
Including my sweetheart Nan;
But of all that's delicious,
Delightful and precious,
Nought beats "a sop in the pan!"

Joseph Hatton.

FOOD RESOURCES OF THE UPPER YANG-TSZE.

Part II.

It is probable, if the traveller is a recent arrival in China, that here, for the first time, the great national vegetable may come under his especial notice, as its cultivation is extensively encourged in the vicinity. The Petsai, or Pak-tsae, known as the white cabbage of Shan-tung, is grown all over the northern parts of the empire, and probably receives a larger share of agricultural attention and skill than any other plant. Nor are its merits unworthy the high distinction that it enjoys, it being as palatable raw as cooked. Eaten as a salad, it is equal to the lettuce as regards flavour, and superior, if we take into account its bulk and purity. Boiled, it reminds one of the finest asparagus, with this advantage, that it is all edible and attractive. It is both hardy and prolific, surviving the bitter winters of the north; while individual specimens are frequently met with weighing 20 lbs. Such is the enormous consumption of this charming vegetable in Pekin alone, that it is a common circumstance to find, during early morning, the whole nine gates of the city blocked by the numerous vehicles laden with it, which have arrived from the suburban nurseries. The Pak-tsae must not be confounded with the *Brassica chinensis*, or oil-yielding cabbage, grown chiefly in the provinces of Chekiang and Kiangsoo, the seeds of which, yielding a limpid and valuable oil, are the only portions of the plant to which any commercial value is attached. Yet the latter, when in bloom, affords a gratification to the senses apart from the worth of its oil, as it tinges the fields with its floral gold, and fills the air with its fragrance.

I-chang is situated in north latitude 30° 42′, and approximate east longitude 111° 20′, and is readily sighted by strangers approaching by the river on account of a bold peak which rises to the height of 400 ft. Even were the internal waters of China now thrown open to foreign navigation, in all probability this port would, for a time, remain the limit for sea-going ships and steamers, as the next 102 miles consist of rapids, not wanting in depth, but dashing onwards with an impetuous current of occasionally ten knots, and usually six knots an hour. The town is 950 geographical miles from the mouth of the Yang-tsze, and 1,100 statute miles from Shanghai. Situated as it is, and possessing its advantages, the finger of commerce clearly points to I-chang as a

future "treaty port" to be thrown open without delay. Here the capitalist may indeed revel in gigantic financial conceptions, and should our Government prove true to her oriental pioneers, and cherish her mercantile sons by a more hopeful treaty than that of Tientsin, there is little doubt that what might be considered wild speculation now will one day there be soberly realised. One has only to look at the latent elements of greatness which have lain undeveloped for centuries, to feel convinced that I-chang, under British management, may be destined, at no distant date, to become one of the most important ports on the Yang-tsze. One of the sights of the river here is the immense flocks of tame ducks, in the rearing of which the Chinese are proficient. Almost entirely hatched in ovens, or by the heat of manure heaps, as soon as the ducklings can safely be removed they are conveyed to the nearest mud-bank frequented by shellfish, and there set adrift to search for food. When feeding time has terminated, the boatman strikes a signal on a gong or blows a whistle, when his flock paddles out to the boat from whence it started as unerringly as if it were the only one, in place of hundreds, present.

Now come the gorges and frowning precipices, hoarse with the perpetual brawl of the confined and rock-tortured river. In the words of quaint old Turbevile—

> "Hast thou not read in bookes
> Of fell Charybdis' goulfe,
> And Scyllas' dogs, whom ships do dread
> As lambes doe feare the woulfe?"

Probably nowhere else, not even on the St. Lawrence rapids, is there such a continual whirl of wild excitement—such a determined battle hourly fought between puny man and a resistless flood—such an incessant dashing, splashing, plunging, and tossing as here. Usually the boatmen win, but sometimes, through the snapping of a rope, the mighty Yang-tsze triumphs; when junks, sailors, and cargo get swept away and wrecked, and are, by the terribly relentless Maelström, pounded into undistinguishable chaos against the treacherous crags. It is customary for the captain of each junk to land at the commencement of every rapid, provided with strings of cash. Forthwith he presses into his temporary service all the stout villagers he can find, who immediately attach themselves to the towing line. The crew likewise join the trackers, with the exception of three strong boatmen to manage the bow sweep (an immense bent oar used to change the vessel's direction on sudden emergencies), two men to pay out or haul in the line, the steersman, and the cook, who is perched on the most conspicuous part of the vessel armed with

a drum. The word of command being given, the cook beats the advance, timing his performance according to the difficulty or easy appearance of the path over which the trackers have to pass, when away go the athletic multitude with the rope, and the junk plunges out into the foaming rapid. Sometimes the towing-path winds upwards, as if it had been scarified on the face of the precipice, and the trackers begin to resemble the rearguard of an army of ants, clinging to the giddy crags a hundred feet above the foaming ravine. Still, onwards they toil at the rate of about ten miles a day. Perhaps the strain becomes so tremendous that their efforts to move farther are temporarily baffled, and they halt breathless and staggering on the seemingly treacherous brink. Suddenly one of the junkmen (a sturdy fellow uniting in his own person the accomplishments of clown, vocal delineator, and whipper-in) detaches himself from the towing line, and commences a series of gymnastic capers, varied with snatches of song. The panting trackers are allowed a momentary respite; they breathe afresh, whilst they enjoy the antics and melody of the uncouth minstrel; but ere the enlivening effect is dissipated, he starts them forward with redoubled shouts and gesticulations, belabouring each man into a renewed effort with a flat bamboo as he passes, until the whole gang have broken into a brisk trot, when, with exultan whoops, the rapid is at length surmounted.

Having completed their task, the trackers retire for a time to the nearest hamlet, and endeavour to restore their muscular energies by copious allowances of boiled rice and stewed frogs, the latter an esteemed yet expensive luxury in some parts of China, but cheap enough wherever paddy fields are found. The cruel manner in which these little creatures are dressed for market gives a faithful yet melancholy idea of the callousness of Chinese feeling towards animal suffering. By means of hand nets the edible frogs are caught and accumulated in tubs of mud and water, which are placed at the doors of the fish and cook-shops. Here the operator takes his seat, and skins his live victims between the intervals of making sales. His method is this: Seizing the frog in his left hand, with a knife in his right he chops off the crown of its head, and draws back the entire skin over the body down to the feet, which are detached and, with the skin, thrown away. The miserable writhing creature is then flung into a vessel of clean water, to be presently joined by its similarly mutilated companions.

W. Cochran.

TO BE CONTINUED.]

A NATIONAL REGISTRATION OF SICKNESS.

In the present paper I propose to redeem a promise, made some time ago, of taking up from time to time some one of the subjects touched upon, or alluded to, in the brief review of public health which occurs in Vol. I. of the *Food Journal.* One of these subjects, and certainly not the least important at a time when epidemics are spreading and the public mind is in many cases unnecessarily alarmed, is the Registration of Sickness. It is a matter in which the public have a special interest—an interest as great as in sewer gas—yet the one is on the front of every country newspaper, while the other has to be dug laboriously from the dry mines of medical and scientific journals, and of Blue Books which deal with sanitary subjects. A few pages, then, devoted to this question will not be thrown away, if the value of a registration of sickness can be rendered plain to my readers, and if the objections which naturally arise in their minds can be set at rest.

"Register my ailments!" I can fancy a sensitive and testy sufferer to exclaim; "bad enough to label me 'gout' or 'dyspepsia' after death, in my burial certificate, but to chronicle my every twinge, or even the medical results of an unusual repast! These statisticians must have lost their senses, and are only fit for Bedlam." It may allay such fears to reply at once that no such record is contemplated. Perhaps the shortest way of stating the wishes of sanitarians on this point will be by quoting the evidence given by Mr. Simon (medical adviser to the Privy Council) before the Royal Sanitary Commission of last year:—"We want," he says (Q. 1830), "an improvement in the system of registration and returns of deaths, and we want a properly established registration of sickness. I am strongly of opinion that all sickness which is treated at the public expense ought to be made known, and that we ought to know how much of each sort of such sickness is so treated. At the present we cannot know that, because there are no returns made. Institutions purporting to be charitable institutions for the relief of sickness or infirmity should be required to give an account of what they do, to keep records, and make returns. There are now no returns of a systematic kind. In some of the larger London hospitals of late years they have taken to publishing annual reports, but those annual reports are

done by each hospital as it likes; there is no concert. Other hospitals than those of London very rarely publish a record of what they do."

If private patients are to be touched at all, it would be in the case of infectious disease, where the earliest information of an advancing epidemic is of the utmost importance to the health officer or other guardian of the public health. There is, therefore, no cause to dread a national registration of sickness as a revolutionary change, calculated to become inquisitorial in its practical working; on the contrary, it will, I believe, be seen to be a measure laden with benefits to rich and poor alike, throwing light into dark corners where disease now nestles unseen and undisturbed, giving reliable information concerning the influence of certain manufacturing industries on health, and affording data, now quite inaccessible, for determining the choice of a summer watering-place or a winter resort for health.

The demand for some form of registration of sickness is not of recent growth; ever since the beginning of last century it has been the desire of clear-sighted men who have felt that knowledge is the first step on the road to true reform and improvement. So strongly has this been felt, that voluntary effort has more than once endeavoured to supply what is undoubtedly a national want. In the year 1854, Dr. Benjamin Richardson commenced a series of reports, in the pages of the *Sanitary Review*, on the occurrence of certain forms of epidemics, the meteorology, etc.; but the effort failed after a few years from want of support.

In 1857-8, a weekly record of disease was published by the Metropolitan Association of Medical Officers of Health; but this also failed for lack of the necessary funds to carry it on. Nothing daunted, however, by previous failures, the Manchester and Salford Sanitary Association commenced, in 1862, a series of weekly returns, including epidemics and acute disease, which have been continued to the present time, and rank amongst the most valuable sanitary records that the country possesses. Another series of equal value was started a little later, in 1864, by the Northumberland and Durham Medical Society, under the able direction of Dr. Philipson; but, to the infinite regret of all interested in the subject, they have during the past year been discontinued, owing to the pecuniary difficulties connected with their publication. Again and again has the subject of a national record of sickness been urged on the Government by individuals, by medical and scientific bodies, and most recently in the resolution of the Sanitary Commissioners (35)—"That, in addition to the duties prescribed by

the existing Registration Acts, it should be made the duty of the Registrar-General and of the District Registrars to register disease and sickness, or specified cases of disease and sickness" *—but no action has as yet been taken. Let us look, then, a little more closely at the benefits likely to result from a knowledge of the diseases as well as the deaths in our populous manufacturing towns, and among the dense masses of the poor. Hitherto the death-rate has been the sole and utterly fallacious measure of a people's health—the "health barometer" from which Dr. W. Farr expected such great results; but if we consider that disease and insanitary conditions may be reducing men to skeletons, or that fever may be prostrating and hopelessly pauperising whole families without leaving more than a trace on the death-roll, we can readily understand the increased insight which a knowledge of sickness would supply. To the Government such information would be an invaluable starting-point for measures to relieve the poor or to protect the helpless and the feeble, the employed from the greed of the employer, the workman often from his own rashness and folly; it would be a key to unlock some, at least, of the social riddles by which statesmen are now baffled and perplexed; it would give an insight into the prevalence and local preferences of non-fatal disease—rheumatism and ague, for instance—such as has never yet been accorded to scientific observers.

The earliest intimation of an epidemic now received by the Central Health authorities comes haphazard through the Registrar-General, or from some casual source, generally through the quarterly, or, for London, weekly record of deaths; the one issued on the Tuesday following the close of each week, the other within a month after the close of each quarter. Disease may have come and gone before the Privy Council has heard of a death—nay, it may come and go unnoticed, provided it do not kill—it may sweep a town or a district, bringing misery enough in its course, and yet leave no trace upon the health annals of the country, whether local or central. Typhoid fever, as Mr. Simon himself owns, had existed for seven years in Winterton before the facts were known to the Privy Council. "Of the Terling epidemic they heard nothing till it had reached its height. There was no public

* For further information on the history and merits of a registration of sickness, I would refer to my paper in the *British Medical Journal* for April 8th, 1871, on "The Registration of Sickness;" also to an article in the *British and Foreign Medico-Chirurgical Review*, April, 1871, on "A National Registration of Sickness."

knowledge of the existence of diphtheria in England until it had been an epidemic two years."

The information, then, of our Central Health authorities, derived as it is at present from a record of death, is at once deceptive and utterly inadequate. It comes too late; it tells nothing of the stealthy onset of epidemic disease until death has certified its power to kill; it tells nothing of the poverty, the misery and suffering of survivors who have been maimed or disabled by the disease. On all these points a registration of sickness would give information exact and specific; and so of scrofula, rheumatism, and bronchitis, and of many other disabling maladies. "We cannot doubt," say the Sanitary Commissioners, "that a registration of sickness would show that not only the personal misery but the public loss by these diseases is enormous. . . . . It is to be hoped also that a registration of sickness would bring to light not only many unknown liabilities to disease in various places and among various classes, but some immunities, from the study of which means of improving the public health might be derived. There is reason to believe, for instance, that workers in brass are insusceptible of cholera, that people bred in rural districts are less liable than those who live in towns to the blood infection following injuries. And if these are facts, it is not likely that they are the only facts of the kind; there must be many more which a registration of sickness would help to detect." *

In my next paper I hope to dwell more on the local, personal, and medical advantages of a registration of sickness, and to consider somewhat in detail the various schemes which have been proposed for carrying it into effect.

E. T. WILSON.

IT appears that a considerable trade is carried on in fruit syrups, which on the *lucus a non lucendo* principle, contain no fruit whatever, but are artificially prepared from solutions of sugar flavoured with ether and coloured with aniline dye. There are fortunately various tests for this disgraceful imposture—such as nitric acid, which, when mixed in equal volume with real fruit syrup, causes no change, but turns the imitation yellow. With solution of carbonate of soda, the artificial remains unchanged, and the real becomes lilac or green, so that the preventives against making our interior an ethereal dye-house are easily obtained and put in force.

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* Sanitary Commission, Second Report, vol. i., p. 60.

POPULAR FOOD ANALYSIS.

No. 14.—A Neglected Source of Food.

It is a painful but well-known fact that, though everywhere around us in this great British Empire (upon which the sun never sets) we possess exhaustless sources of nourishment derived from the vegetable kingdom, but either through the indifference of some, or the natural conservatism of others in all matters appertaining to food, many valuable articles remain altogether undiscovered, or, if known to a few, completely neglected, while thousands are starving at our gates. The continually increasing cost of maintaining existence, so thoroughly understood by every master of a household, should render all of us disposed to examine into the claims of the food resources at present overlooked; and it is with one of these that we propose to deal in the present paper. More than a year ago, early in the career of the *Food Journal*, we discovered, while investigating cocoa by means of the microscope, an adulteration to which we were then unable to give any specific name. It presented forms of starch, etc., which had never before come under our notice, and a press of business prevented its being then followed up. We have since made a chemical analysis of the particular sample in question, and were led to the conclusion that the adulterant was characterised by containing an unusual amount of a nitrogenous vegetable principle called Legumin. This pointed to some sort of *pulse*, such as lentils, but the microscopic characters forbade that idea, and the matter rested where it was until about a month or two ago, when a client forwarded us for analysis a sample of a substance offered on the Mark Lane Corn Exchange as a food for cattle, but of which buyers were shy from their ignorance of it. Its analysis showed such a similarity to the former unknown adulterant as to induce the use of the microscope, and then the matter previously found in the cocoa was established as being the flour of the *Arachis hypogœa*, or African earth-nut. The examination of this bean has proved very interesting, and has convinced us that there is here an excellent substance, which, instead of being used only for cattle food, or by some adulterators more enlightened than their neighbours, should be everywhere recognised as a marketable article of diet.

The bean in question must not be confused with other seeds

known here as "pig-nuts," "hawk-nuts," or "ground-nuts." Such a confusion is apt to arise both from its popular and its botanical names. On the Continent it has received the name of the "ground pistachio," and thus it runs the additional chance of being confused with the nuts of *Pistachio vera*. The true earth-nut, however, of which we speak is totally different to any of those that we have mentioned, and belongs to the pea tribe of plants called by botanists the order of *Leguminosæ*. The Arachis is extensively known in many tropical and temperate countries under various names. In Bengal it is termed "moong phullee;" in Java, "Chinese pulse;" in Jamaica it is known as "pindar nut;" while in Spain it is eaten to some extent under the name of "mani manoti." The plant itself is really indigenous in Florida, Peru, Surinam, and probably Brazil; but it may be grown on any light soil in any country the temperature of which approaches that of the south of France. It is a low creeping plant, very easily propagated, and requiring scarcely any attention for its successful growth. The ground must be simply drilled as for turnips, and the seeds may then be sown in the month of May at eighteen inches distance. When the plant appears, a little earthing-up with the hoe is all it wants, and it rapidly grows and bears a luxuriant crop of yellow papilionaceous flowers. When the flower has arrived at maturity it withers up after fertilisation, leaving apparently nothing but a bare sharply-pointed stem. This stem, bearing the fertilised pistil, at once commences to increase very quickly in length, turning downwards at the same time until it reaches the earth, which it penetrates to a depth of four or five inches. When the germ of the fruit is thus introduced into the ground it soon ripens and becomes, when matured, a pale yellow oblong rugose pod, usually contracted in the middle. In this fruit is enclosed two seeds, having externally a light-brown colour, and internally a whitish substance much resembling the interior of an almond. At present the seed is only known in commerce as a source of oil, of which it contains 44 per cent. The nuts are grown extensively in Africa, near the river Gambia, and are thence exported for oil-making. A factory also exists in that settlement where the oil is extracted, but in a somewhat imperfect manner, and is sold to the British cruisers as a lubricant for their machinery. The oil, when properly prepared, especially by cold expression, is of a very superior nature. It consists mainly of a fatty acid called arachidic acid, and is much used in the East Indies and elsewhere as a lamp oil, it having been found that it burns with a splendid light, and little or no smoke. The feature of the oil, however, most inte-

resting to us is that, as an edible oil, it rivals in sweetness and purity the finest olive. Mr. Simmonds, who in 1854 much advocated the culture of this plant for the sake of its oil, makes the following statement in his excellent work "The Commercial Products of the Vegetable Kingdom": "I am informed by an American merchant that he cleared $12,000 in one year through importing earth-nuts. Strange as it may appear, nearly all these nuts are transhipped to France, where they command a ready sale. They are there converted into oil, and thence find their way all over the world as olive oil. The skill of the French chemists consists in enabling them to imitate the real Lucca and Florence oils, so as to deceive the nicest judges; indeed, the oil possesses a sweetness and delicacy which cannot be surpassed." After the expression of this fat there remains a farinaceous residue, and it is to this portion of the produce of the nut that we desire to draw attention. When ground it is of a very white colour, interspersed with brown fragments of the testa of the seed. The following is the analysis of the meal, stated in untechnical language, so that all our readers will readily understand its significance :—

Moisture	9·6
Fatty matter	11·8
Nitrogenous constituents (flesh formers)	31·9
Sugar, starch, etc.	37·8
Fibre	4·3
Ash	4·6
	100·0

As a contrast to the above, we give Monsieur Poggiale's analysis of green peas dried and shelled, and also the same gentleman's analysis of lentils, which have been so much vaunted as a nourishing food :—

	Peas.	Lentils.
Water	12·7	15·4
Fatty matter	1·9	1·5
Nitrogenous constituents (flesh formers)	21·7	29·0
Sugar, starch, etc.	57·7	44·0
Fibre	3·2	7·7
Ash	2·8	2·4

In the various ashes the following amounts of phosphoric acid were discovered :—

Arachis	1·87
Peas	1·458
Lentils	1·411

From these analyses it is evident that the residue from the arachis, after the expression of the oil, far exceeds that of peas, and is

even richer than lentils in flesh-forming constituents, while it contains more fat and more phosphoric acid than either of them. On these grounds we are justified in urging the adoption of this earth-nut meal as a source of food, it being superior in richness of all important constituents to any other vegetable product of a similar nature. Although in the raw state it possesses a somewhat harsh odour similar to that of lentils, this flavour entirely passes off in the cooking, and when properly prepared we consider that it has a very agreeable flavour. It has been tried in three forms—first, boiled plain with water, like oatmeal porridge, and eaten with milk; second, made into a custard, with sugar, milk, and one egg to the pint; and, third, roasted, ground, and taken as a beverage, like cocoa. In all these three forms, but especially in the two latter, it was exceedingly palatable; and since we have been investigating the subject, a friend has informed us that he actually met with it in the latter form as a beverage in use in America. As this meal is at present a mere refuse, only sold for cattle food, if in the market at all, we have ascertained by enquiries made that it could be sold, after yielding a handsome profit both to importers and retailers, at 1½d. per lb.

That our readers who have microscopes may be able to detect adulterations of cocoa by arachis meal, it may be useful to mention that the *cellulose* and a portion of the *testa* may be well seen under a ⅛ of an inch power, with a B eye-piece (magnified 230 diameters), and the starch granules separated from the seed by washing through linen, by a ¼ of an inch power and B eye-piece (magnified 400 diameters). The mode of detecting arachis oil in olive oil will also be interesting to those engaged in such investigations. The suspected oil is to be first saponified, and the fatty acids obtained in a free state by decomposing the soap with hydrochloric acid. By converting these acids into lead salts, we are enabled to get rid of the oleate of lead, by its insolubility in ether. The insoluble lead salts are once more decomposed with hydrochloric acid, and the resulting fatty acids are dissolved in the smallest possible quantity of alcohol at a temperature of 90 degrees. If arachidic acid be present, it will deposit in crystals from the solution on cooling; and if a quantitative analysis be desired, the acid can be further purified by alcohol and weighed. Any mixture over 5 per cent. may be thus easily and certainly detected. According to the experiments of Monsieur Renard, earth-nut oil contaius 4·5 per cent. of arachidic acid.

JOHN MUTER, Ph.D.

ORANGES AND LEMONS.

Among those important eatables known in the trade as "green fruits," none is so well known or such an universal favourite as the orange. It is quite cosmopolitan, for wherever it has been introduced, either by the cultivation of the trees themselves or by the importation of the fruit as an article of commerce, the orange has always been received with favour. With us it has become such a prominent article of import that a failure in the crops, either by disease or from any other cause, is looked upon in the light of a calamity, not only by the wholesale dealers, but by thousands of poor and aged people who eke out a miserable existence by vending oranges in the streets of London and the provincial towns. When we consider the low price at which oranges are retailed during the run of a plentiful season, it seems surprising that sufficient profit should be derived from their sale to pay for the culture, gathering, packing, freight, and other incidental expenses attendant upon them; but of the fruit-bearing capabilities of the orange tree, under favourable circumstances, in the south of Europe, few, probably very few, British consumers have the remotest idea. In the island of St. Michael's a single tree has been known to yield 20,000 oranges fit for exportation. Much attention has been paid by botanists at different times to the genus *Citrus*, to which the orange, lemon, citron, lime, and shaddock belong. Some authorities have referred them all to distinct species, but it seems more probable that many of them have originated from the same parent form, and are therefore to be regarded simply in the light of varieties rather than species. Many botanists of note have considered that the citron, orange, lemon, shaddock, and lime are probably all referable to *Citrus medica*, which is indigenous to the mountains of the East Indies, where it is still found in a wild state. If we accept the hypothesis that the citron is the original form of the much cultivated and favoured orange, we find, with regard to its early history, that Theophrastus describes it as being plentiful in his time in Northern Persia, and cultivated by the Jews in Syria during the Roman dominion. Though it appears probable that the fruits were taken into Rome before the period of the Christian era, the tree was not success-

fully cultivated in Italy till some time in the third or fourth century. However widely diffused the plant may have been in early times in Western Asia, recent travellers have not found it in a wild state in Persia; but it has been found in the forests of Northern India; it is also cultivated in China, where it no doubt has been introduced from a remote period. At the present time it is grown in many warm countries, and in several of our colonies.

The orange, as we now know it, whether we consider it a distinct species, and call it *Citrus auranteum* or a variety of *C. medica*, is certainly the most important of the whole group. Oranges appear to have been brought by the Arabs from India about the ninth century, the sweet oranges being carried through Persia to Syria, and so to the shores of Italy and the south of France, and the bitter oranges by Arabia, Egypt, and the North of Africa to Spain. There seems, however, to be no proof of their having been known in Europe till the eleventh or twelfth century, at the latter part of which date they were cultivated at Seville. An orange tree was planted by St. Dominic in the year 1200 at the convent of St. Sabina, at Rome, and it is said to be at the present time over 30 ft. high.

With regard to the introduction of oranges into England, tradition tells us that we are indebted to Sir Walter Raleigh, to whom has been accredited the importation of many of our important commodities. Seeds were taken from these fruits imported by him, and plants were raised by Sir Francis Carew (Sir Walter's nephew) at Beddington, near Croydon. The trees so produced grew and flourished till they were killed by a very severe frost, which occurred in the winter of 1739—40.

The orange tree is remarkable for the great age to which it will live in soil and climate suitable to it. In Cordova several trees were in existence a few years since, and are probably still existing, which are computed to be at least 600 or 700 years old. With regard to the prolific nature of the orange, the crops, more especially in an abundant season, are something really surprising. Twenty thousand marketable oranges from one tree seems almost beyond belief, but, as we have before stated, such is a fact; the branches have frequently to be propped up with wooden supports to prevent their breaking. Risso mentions a tree growing at Nice, in 1789, which was more than 50 ft. high, and the trunk of so large a girth that it required two men with outstretched arms to embrace it; this tree usually bore from 5,000 to 6,000 oranges.

The perfume of an orange ground when the trees are in full flower is described as being almost overpowering, which can easily be imagined if one has only experienced the intense fragrance

arising from a single tree in flower in a greenhouse. The orange will grow safely out of doors during most of our warm or temperate months, but it is too delicate to withstand the effects of our winter colds. Very little protection, however, is needed for it; for oranges and lemons have been grown in Devonshire against a garden wall, with nothing more than a temporary shelter. Parkinson refers to its half-delicate nature when he says:—"The orange tree hath abiden, with some extraordinary branches and budding of it, when as neither citron nor lemon trees would by any means be preserved for any long time. Some keepe them in square boxes, and lift them to and fro by iron hooks on the sides, or cause them to be rowled on trundels or small wheels under them to place them in an house, or close galerie, for the winter time; others plant them against a bricke wall in the ground, and defend them by a shed of boardes covered with secuecloth in the winter, and, by the warmth of a stove, or such other thing, give them some comfort in the colder times, but no tent or meane provision will preserve them." A similar precaution to that taken in the middle of the 17th century, of removing them under the protection of a roofed house, is practised now in large establishments where orange trees form an important part of the horticultural treasures. In the Azores—the principal seat of the orange culture—the grounds, which are often many acres in extent, are surrounded by high walls and tall trees, so as to form a shelter from the winds which blow from across the sea. The Mandarin and St. Michael's varieties are largely cultivated in St. Michael's. The first-named is a small fruit, somewhat flattened, with a very thin rind, which separates from the pulp and when the fruit is quite ripe hangs like a loose bag around it. It has a very delicious and sweet flavour, and is, to our fancy, the best orange grown. It is of Chinese origin, where the fruits are used chiefly for presents to the Mandarins. It has been introduced into St. Michael's only a few years, and has proved very successful. It was at one time considered a distinct species under the name of *Citrus nobilis;* the specific name of *nobilis* is now looked upon as a variety of *C. auranteum*, and the Mandarin orange a sub-variety (*Mandarinum*); while the Tangerine, another favourite sort, is also a sub-variety, called *Tangerina*.

The true St. Michael's orange is rather a small fruit, with a thin, pale-yellow rind, and very sweet, seedless pulp. Though it is of a superior quality to many, it is not equal to either of the above. The oranges sold in the streets are mostly, if not always, inferior sorts, having thick wasted rinds and a woolly, tough pulp. The Seville or bitter orange (*Vas bigaradia*), has a thick rind with a

rugged surface and a bitter pulp. The rind is used in the preparation of tinctures and for making candied peel. Of this form several sub-varieties are known. The Shaddock (*Citrus decumana*) and the Forbidden Fruit are both sub-varieties of the common orange.

The lemon is said to be a native of the north of India, from whence it passed into Cochin China and China, and likewise into Europe; and it has now become naturalised in the West Indies and in different parts of the American continent. Like the orange, it has varieties, and immense quantities are imported into this country for the sake of their acid juice and essential oil, both of which are such useful culinary adjuncts. One variety, called the Bergamot, is noted for the powerful and peculiar fragrance of its essential oil. An interesting little species of *Citrus* is the Kenuquat (*C. japonica*). It produces a small fruit about the size of a gooseberry, which the Chinese preserve in sugar. They are very delicious, and small quantities are brought into this country and sold at the best Italian warehouses. Oranges and lemons, as we receive them, are gathered before they are ripe, so as to prevent the chances of their spoiling on the journey home. So well and neatly are they packed that it is seldom there is much loss on this score, which is saying something for the gatherers and packers of about 2,000,000 bushels of these fruits, which is about the annual quantity imported into this country.

With regard to the utilisation of the orange, we think much more might be done with it as a culinary fruit than is now the case. It is essentially a winter fruit, and is looked upon mostly in the light of a dessert fruit; but baked or boiled it might be used when other fruits are scarce. For instance, a few good tender juicy oranges, properly skinned, cut up, and placed under a crust as one would do apples, make a really good pie.

JOHN R. JACKSON, A.L.S.

UPWARDS of 3,400 tons of broccoli have already this season been despatched by rail from West Cornwall, a large quantity being still in the ground. The best season on record witnessed the exportation of 3,600 tons, a total which is likely to be considerably exceeded this year. London has received a large portion of the supply. The Cornish mackerel fishery may be said to have fairly commenced, and during the week many boats have had tolerable catches, but the bulk have done next to nothing; the fish have sold readily, principally for the London market, at 40*s.* to 45*s.* per six score.—*Times.*

THE MEAT-PRESERVING ESTABLISHMENT OF MESSRS. JOHN GILLON & CO., LEITH.

We propose to describe the extensive meat-preserving establishment of Messrs. John Gillon & Co., Mitchell Street, Leith, and the most noteworthy of the articles produced in it. A complete and detailed account would fill a volume, as we are informed that the articles produced amount to upwards of 350 in number. Mr. Gillon, shortly after beginning business as a wine merchant in Leith, began, about the year 1817, to make ginger wine for sale, being, we believe, the first who ever did so; and commenced meat-preserving in hermetically sealed tins on a small scale about the year 1830, increasing the extent of his operations as the necessary processes became more perfectly understood by those in his employment; for much, in things of this kind, depends upon dexterity of manipulation, and much also on a knowledge of minute details to be learned only by experience. The present works cover about four acres of ground, and in these all the operations are carried on, except the slaughtering of the oxen and other animals of which the flesh is used, and the manufacture of the tinplate which is employed for making tins. The departments devoted to the making of tins, which is done by patent machinery—the patent having been purchased by the firm —the manufacture of packing-boxes, etc., are very interesting, and well worth a visit; but it is not our present purpose to deal with these.

The essence of beef, or meat-juice, with which, more than with any other single article, Mr. Gillon's name is now associated, has long enjoyed a high and well-deserved reputation. Dr. (now Sir Robert) Christison, of Edinburgh, whose authority may safely be pronounced equal to that of any physician or chemist in the world, made it the subject of an article in the *Monthly Journal of Medicine* for January, 1855, in which he very strongly commended it as a restorative for patients reduced by fever or other disease. He states that his attention was accidentally directed to it, when he was consulted in the case of a relative of Mr. Gillon, to whom Mr. Gillon himself had recommended it, and found that the patient was entirely supported by it in a severe illness. "Observing the readiness," he says, "with which it was taken when other food of every

kind was refused, I was induced to try it in other instances, and eventually to employ it in various stages of disease. The results led me to suggest the use of it to many professional friends, and to induce the druggists of Edinburgh to keep it. Mr. Gillon's meat-juice contains only 6½ per cent. of solids. . . . . It contains no fibrin, no albumen, no gelatin. It does not even gelatinise on exposure to the air for days; it is osmazome, with the salts and sapid and odorous principles of meat, and materially different from all meat extracts prepared by boiling." He adds, that "no good beef-tea can be made so cheap as with this preserved meat-juice," and assigns, as a reason for this cheapness, that "the residual meat is economised, while that of the ordinary cooking process is good for nothing." The contents of a 4-oz. tin of meat-juice make 16 oz. of beef-tea, by the mere addition of boiling water. The meat-juice undiluted is too strong for ordinary use, but a patient in an extreme state of exhaustion sometimes derives great benefit from a little of it—a teaspoonful or half a teaspoonful—which will remain on the stomach when nothing else will. For making soups and other such purposes, for which it is well adapted, it ought to be mixed with at least three times its quantity of water.

Essence of beef is prepared by heating beef in cylindrical cases of tinned iron, placed in retorts similar to gas retorts, but double-cased, so that steam may be introduced into the interstice around. After the tins have been subjected to heat under steam pressure till the beef is partially cooked, and has given forth part of its juices, the tins are drawn, and the juice is poured out, the meat still remaining of considerable value. The juice, after being cooled and freed from fat, is put into small 4-oz. tin cases. Each of these has a small aperture at one end, which is secured with solder after the juice is poured in. The tins are then subjected to a temperature considerably above that of boiling water, in a bath, when the solderer touches the top of each tin so that the steam is allowed to rush out, and again retouches them so as finally to close them. Great care is taken that every particle of air shall be expelled before the process is completed, and the tins are taken out to be painted and labelled. Sir R. Christison says, concerning the process as observed by him in 1854—and there has been no important change since: "The process is most perfect. I have repeatedly opened tins eighteen months in my possession, and stated to have been many months in store when I got them, and in every instance the contents had the rich delicate aroma and taste of fresh beef-juice." It remains only to be mentioned that there are many details of the process of preparation of meat-juice

which can only be learned by experience, and which are trade secrets, esteemed of great value by the firm.

During the Crimean war Messrs. John Gillon & Co. supplied about 2,000,000 4-oz. tins of essence of beef, or about 325 tons, to the hospitals in the Crimea, at Scutari, etc. It was much used under the directions of Miss Nightingale, and highly approved. The demand has for some time been so great that the supply is hardly equal to it, and none is ever kept in stock, all that is made being at once disposed of. It is the same with regard to extract of meat, made according to Liebig's process, of which a great quantity is produced in these works, but of which it is unnecessary that anything should here be said, either as to its value or the mode of its preparation, both being sufficiently well known.

Essence of beef, or meat-juice, and extract of meat are very generally regarded as essentially similar in their qualities, differing merely in concentration and strength. The differences between them, however, are much more considerable. The extract of meat, when dissolved in water, nearly resembles ordinary beef-tea well made, and forms an excellent article of food for invalids in many cases, or may be used for making soups, other ingredients being added according to taste. The essence of beef is of purer and more simple composition, and is particularly suitable for cases of disease in which the whole frame is prostrated, and in which the stomach refuses to receive or retain any ordinary alimentary substance. There are many such cases in which the essence of beef is of invaluable service, but in which the extract of meat would be of no use at all. In many of the principal hospitals of this country the respective values of both are thoroughly understood, and they are used accordingly.

J. Montgomery.

[to be continued.]

Every fresh experiment on colonial meat is another proof of its value as regards expense. Some careful calculations have been made at St. Cuthbert's Parochial Board, Edinburgh, as to the cost of feeding the 424 inmates of the establishment, and it was found that the quantity of meat used in the ordinary soup was 51 lbs., which cost, at 6*d*. per lb., £1 5*s*. 9*d*. Less Australian meat, viz., 38½ lbs. was used to obtain the same amount of soup, and the cost was only 19*s*. 11¼*d*., showing a saving in the day's food of 5*s*. 9½*d*. By varying the cooking of the colonial meat, and making it into a potato hash, 8½d. a day more was spent; but even with this extravagance the saving over fresh meat was 5*s*. 1¼*d*. It is in such comparative results as these that the real value of the meat is to be found.

THE SANITARY CONDITION OF THE "BLACK COUNTRY."—PART IV.

AN account of some of the places visited may convey a faint idea of the horrible realities which abound in all parts of Bilston.

Homer's Fold.—This is a most filthy court, mostly unpaved, and several inches deep in foul slimy mud and filthy ooze, reeking with putrifying animal and vegetable matter. The place seems devoid of any drainage, the level of the courts being mostly below that of the thoroughfare. The majority of the people seem to be utterly degraded by the sad conditions under which they live, very few looking as if they ever washed themselves.

Greencroft.—Was this name ever applicable to the now noisome place which bears it? Here are seven most wretched-looking tenements, in truth not fit for human habitations. These houses open on a foul yard or croft, swimming with thick mud and ooze, derived from two pigstyes, a couple of foul dilapidated closets, and a low-walled midden, piled up with filth and garbage. In this yard live some twenty people. The two closets provided for these people are in such a state as to be totally unfit for use by the most degraded of human beings. Yet these people do not have even these fever nests for nothing. Many of these houses realise a rent of 2*s.* 7½*d.* per week, some as much as 3*s.*, and few less than 2*s.* 3*d.* Close to this court is another in much the same state. Here is some attempt at paving, but with such irregular sizes of stones, so unevenly placed, that the result is only the formation of a sort of network of holes, in which stagnant water and decaying matter collect. In some places the mud was not less than three and even four inches in depth, and everywhere looked unusually slimy. To describe the closet accommodation of this court would only be to repeat the painful details given above.

Almost all the houses visited were either on a level with, or even below, the surface of the courts.

Winn's Fold.—Even amidst the squalor and filth of Bilston, Winn's Fold is disagreeably remarkable; amongst the depths of degradation it shows the lowest; where so much seemed of the foulest and darkest this fearful den showed still darker and fouler. It cannot be described—it cannot be imagined! It must be seen and smelt to be realised.

This fold is entered by a narrow and very dark passage, leading to the filthiest of all filthy yards. Near the bottom of the passage is a door opening into a room let at 1*s.* per week. This room is so dark, even in broad day, that a person coming from outside certainly could not read this page in it. In the yard, at the distance of about five feet from this room is a horribly offensive cesspool full of putrid water, having no means of escape but gradual percolation through the surrounding soil, or evaporation into the atmosphere passing into the houses. Here are eight houses, seven of which are occupied. To these eight houses there is attached one closet.

In this fold is a place where eleven persons are alleged to be sleeping in one bedroom, and it was also stated that *there were twelve till the child died.*

That others beside the present writer hold the same opinions as to the insanitary state of Bilston, may be seen by the following letter to the Clerk of the Wolverhampton Guardians, written by Mr. W. M. Hancox, one of the public vaccinators for the township of Bilston:—

"My medical district, I regret to say, is in an unsatisfactory condition. It is overcrowded with a destitute population, and consists of an incredible number of confined courts, alleys, and squares of building. To some of these squares the approach is by a narrow entry of gradual descent, so that the dwellings are much below the surface of the thoroughfare above. The sewerage is defective, favouring the accumulations of every possible description of filth in the centre, forming at times a considerable lake, and the extremity terminated by a high wall. The amount of infantile mortality in these dismal swamps is somewhat frightful; children cannot be reared and rarely attain the adult period of life. I will just afford an instance of how quickly life is often terminated. I was requested to visit, late in the evening, a child represented to have been seized with sudden illness. I found the child to be an infant a few months old, residing in a small alley off Temple-street, and right opposite the door of the house was an overflowing closet. The child was asphyxiated from its exhalations; in fact, absolutely poisoned, and it died shortly after my visit. The inhabitants of these dismal swamps of desolation are of the poorest description, being feeble in body and enervated in mind, and if not in a state of pauperism are on the very verge of it. With such opposing obstacles to the increase of population there is no wonder that Bilston is on the decline, and ever will continue to be unless some improved sanitary measures be taken, by which the health of this unhappy class of inhabitants can be improved, these overcrowded localities removed, and differently constructed dwellings substituted.—I am, Sir, yours truly,

"W. M. Hancox, Medical Officer."

This letter has caused considerable excitement in the town, and has elicited rather warm expressions of dissent and annoyance on the part of many owners of dilapidated houses. Its statements are nevertheless not only true, but are indeed within the actual facts

of the case. Incredible as it may seem, there were found speakers at the meeting of the guardians who answered this letter by proclaiming that Bilston was in a good sanitary condition, and that it was one of the healthiest towns of the district; and one member said that "he knew that there was some property in Bilston that Mr. Hancox had been pecking at for years."

It is a great pity that the Local Government Board have not had Bilston inspected by one of their sanitary inspectors. If one be sent to this town, he will find a state of wretchedness, filth, and destitution passing all belief.

Sedgley.—Had space permitted I should have dealt fully with this extensive district; as it is, the following few particulars must suffice. Sedgley is an extensive parish, comprising, beside Sedgley proper, the districts of Upper and Lower Gornal, Brierley, Cotwall End, Ettingshall, Gospel End, Woodsitton and Coseley. The area of this parish is 7,340 acres, and the population 37,355.

The people are chiefly employed as colliers, nailers, chainmakers, and makers of fire-irons, rivets, and common locks and safes. The sanitary condition of Sedgley is very bad, as may be judged from the following quotation from a report presented by Mr. H. Ballenden, the Officer of Health, at the meeting of the Local Board, on January 9th:—

"I have inspected many houses and premises in Sedgley, Gornal, and Moden Hill. In most instances the premises are everything that is bad; nearly every closet is open, having no covering of any description, and in many cases the contents are draining into the yards and wells. In Moden Hill there is only one closet covered; all the rest are filthy and dangerous to the inhabitants. A great deal of disease in this parish arises from the bad quality of the water used, many wells being close to closets and drains which are constantly filtering into the water. Many of the houses are badly lighted and ventilated, and unfit for human habitation. I hope your board will do all it can to get these removed before the hot weather comes on; I am convinced that if there is more attention paid to the sanitary condition of this parish that we shall have far less illness. A great many drains remain filled with decomposing matter for months, causing most noxious and dangerous gases."

It is at least satisfactory to note that the members of the Sedgley board thanked Mr. Ballenden for the information given, and expressed their determination to enforce the removal of all nuisances.

Small-pox still spreads and increases in the "Black Country," and there are many other towns and villages in as bad a state as those already described.

J. Beverley Fenby, C.E.

AN INDIAN WINE.

The indigenous productions of India have recently received an addition in the shape of a wine. Of all the numerous products and manufactures for which India has long enjoyed a far-famed popularity, she has never hitherto been known as a wine-producing country. This is now no longer the case; and although it may be many years before we see Indian vintages advertised in and about London, there nevertheless exists the fact that she is capable of sending forth such productions. The fruit from which this wine is manufactured is of a dark, astringent, and sub-acid character. The tree on which it grows is the jamun tree (*Sygyzium Jambutanum*), and, under the enterprising care of Mr. J. J. Varnier, an Italian gentleman, residing at Patna, it has been made to yield an indigenous wine, named by the manufacturer *Kenoinos*. It appears that some years ago Mr. Varnier was struck with the resemblance which the berry of this tree bore to a kind of astringent grape which grows near Milazzo and Mascali, in Sicily, and which yields a generous, full-bodied and, to Italians at least, a palatable wine. On analysing the jamun fruit, he found its approach to the grape in question greater than he had at first thought, and though, to a certain degree, deficient in vinous basis, yet capable of yielding good and palatable wine. On his return from a visit to Sicily, Mr. Varnier tried his experiments, and finally succeeded in inventing a process of producing wine out of the jamun. Encouraged by the result, he secured, in 1868, the aid of a skilled wine manufacturer from Sicily, and thereby had the satisfaction of turning out some wine with perfect success. Not only were the defects of the wine corrected, but its keeping qualities in a hot climate are said to have been secured beyond doubt, and it is expected that age will refine and improve it more and more. Dr. Collins, of the Government opium factory at Patna, is of opinion that it will prove a wholesome and palatable beverage; and Dr. Cameron, of Monghyr, describes it as "pleasant to drink," and as "a very light wine, of a light-red colour, of a sweet taste, bearing a great resemblance to claret cup." A second wine, made apparently from the same fruit, is also described as "a stronger wine, not so sweet nor so pleasant to drink," but containing a large quantity of astringent matter, which would "doubtless prove useful for patients suffering from dysentery and diarrhœa."

F. C. Danvers.

MARKETS OF THE MONTH.

THERE is large promise of fruit of all kinds in most places, and, unless we have much frost to contend against and cutting winds at the critical period of the setting of the blossoms, I think that the present season will be exceptionally good. The meat market is not worthy of much notice; there has been but little change since last month. Lamb, of course, is becoming more plentiful, and is not quite so dear. Mutton is very dear; prime first-class mutton makes 10*d.* per lb. by the carcase; beef is slightly cheaper; pork is, comparatively speaking, cheap. A certain class of meat may be bought as low as 6*d.* per lb., but this kind of meat is in reality dearer than that which is purchased at a higher price, for it is very fat, and consequently wastes enormously when cooked. Butter and eggs are cheaper. March is the month when thrifty housewives procure their eggs for preserving to make puddings during the winter time, when eggs are scarce and dear. Eggs will not be cheaper than they are now—7*s.* per hundred. Fresh butter, too, is now more plentiful, and will soon be getting much cheaper; but it is strange what an expensive and scarce article *good* fresh butter is nowadays at all times of the year. I expect that the farmers' daughters of the present day play the piano and neglect the churn. Why can they not manage to understand both? Lobsters are still very dear. Salmon is becoming cheaper; it is now making from 2*s.* to 2*s.* 4*d.* per lb. A few crabs have been seen in market, but it is early for them at present. Mackerel are beginning to appear, but not in any considerable quantity at present. Cod is getting soft and out of condition. Hothouse pines are scarce, and are making from 11*s.* to 13*s.* per lb.; hothouse grapes fetch the fabulous price of 20*s.* to 22*s.* per lb. Prices in Covent Garden are:—For French lettuce, 1*s.* 2*d.* per doz.; French endive, 1*s.* 9*d.* per doz.; French artichokes, 4*s.* per doz.; barbe de capucine, 6*s.*; French carrots, 3*s.* per doz. lb.; turnip radishes, 14*s.* per doz. bundles; asparagus, first quality, from 9*s.* to 10*s.*; second, from 6*s.* to 7*s.*; short, from 4*s.* to 5*s.* per hundred. Seakale is nearly over. Broccoli is cheap, and Cornwall sends large supplies to market, at from 1*s.* 9*d.* to 3*s.* per doz. Rhubarb, forced, from 9*s.* to 10*s.* per doz. bundles; natural, from 3*s.* 6*d.* to 4*s.* 6*d.*; cucumbers, 1*s.* 3*d.* to 2*s.* 6*d.* each; mushrooms, 1*s.* to 1*s.* 2*d.* per pottle. New potatoes, Bermuda, 12*s.* per cwt., or 1*s.* 6*d.* per doz. lb.; new potatoes, kidneys, from 2*s.* to 2*s.* 3*d.* per lb.; imitation new potatoes, in 2 lb. punnets, 9*s.* per doz.; long radishes, 10*d.* a dozen bunches; forced French beans, from 3*s.* to 3*s.* 6*d.* a hundred. Green peas have not yet entered an appearance, but may soon be expected. Wild fowl has continued to be dear until lately. Prices now are:—Wild ducks, 2*s.* 9*d.*; widgeon, 1*s.* 9*d.*; pintail, 2*s.* 3*d.*; golden plover, 1*s.* 3*d.*; green plover, 11*d.* Poultry is always at this season of the year very dear. Goslings make 9*s.* to 10*s.* 6*d.* each; ducklings, 5*s.* to 7*s.* 6*d.* A few hares are still to be seen, and are eagerly purchased at 4*s.* 6*d.* each, which is an extraordinary price. Ptarmigan are plentiful and cheap, making only 1*s.* 2*d.* each; black game are still to be bought at 3*s.*; guinea fowls, 4*s.* 1*d.*; quails, 4*s.*; young pigeons, from 10*d.* to 1*s.* Pigeon pies consequently may be now indulged in, and we shall soon be able to enjoy that delicate luxury —the plover's egg. Beware of crows' eggs.

P. L. H.

March 11th, 1872.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

TO BOIL RICE, AS IN INDIA.

Into a saucepan of 2 quarts of water, when boiling, throw a tablespoonful of salt; then throw in 1 pint of rice, after it has been well washed in cold water; let it boil 20 minutes. Throw it out on a cullender, and drain off the water. When this has been done, put the rice back into the can or saucepan, dried by the fire, and let it stand near the fire for some minutes, or until required to be dished up; thus the grains appear separate and not mashed together.

RIZART HADDOCKS.

A mode of dressing haddocks very common in Scotland is by drying them in the sun. To *rizar* is explained, in Jamieson's Scottish Dictionary, as signifying to dry in the sun, and its past participle, *rizart*, as equivalent to the French *ressoré*, from which the Scottish word is derived (or they have a common root, from which, probably, the word *raisin* also comes). The haddocks to be prepared for the table in this way, must be perfectly fresh, almost newly taken, middle-sized, and are most suitable when they are gutted, thoroughly washed, and allowed to lie in salt for a night. They are then strung on a thick wire passed through their eyes, and hung up for two days in the open air on a wall, but not where they are much exposed to the direct rays of the sun; after which they are skinned, the backbones are taken out, and they are broiled on a gridiron and rubbed with a little butter. Thus prepared, they are extremely palatable, and excellent for breakfast or supper.

ORANGE MARMALADE.

For 7½ lbs. of sugar (lump), 4 lbs. of oranges (Seville) are required. Boil the oranges until sufficiently tender for a pin's head to go through the skin, having first grated half the number to prevent the marmalade from being too bitter; for if the whole of them are used the jam will be as bitter as the waters of Marah. Cut the oranges in half when you have boiled them sufficiently; remove all the pips; scoop out all the pulp. Cut the skins into thin strips. Put the sugar in your preserving jar, dissolve it in a pint and a-half of water, and boil it 20 minutes. Skim it well—whatever you do, skim it well—and on no account add the pulp and peel until the syrup is as clear as "water from the crystal spring." Then put in the pulp and the strips of peel, and boil all together for a quarter of an hour.

HARICOTS VERTS EN SALADE.

Boil some French beans whole; when cold, dress them with oil, vinegar, pepper, and salt, some parsley and capers finely minced, and garnish with hard-boiled eggs, anchovies, and beet-root. The dish must be well rubbed with an onion.

NOTES OF THE MONTH.

Our attention has been called to a mis-statement (which we gladly correct) in a paragraph in last month's Journal (page 76), respecting the adulteration of beer, Instead of 14 samples of beer examined, it should be 14 samples of beer *and of substances used in the adulteration of beer.* These substances were not all found in the beer, but mostly on brewers' premises, where they were seized.

From the epitome of a paper by Dr. Decroix (*Chemical News*), hippophagy would seem to make steady progress in France. The siege of Paris of course gave an enormous impetus to the fashion, seeing that during that period 70,000 horses were cooked and eaten. Dr. Decroix estimates that France can spare annually 200,000 horses for this purpose, and taking the average weight of meat on each horse at 200 kilos. (1 kilo. = about 2¼ lbs.), this will yield 40,000,000 kilos. fit for human consumption.

Concerning the use of glycerine as an antiseptic, M. Luton, in the *Gas. Méd. de Paris*, mentions some of his experiments on the subject. He found that, on dipping beef and mutton and some vegetables into glycerine, and a like quantity of each into water, the decomposition was complete in the latter instance before any signs of deterioration became apparent in the former. At one time some raw mutton-chops, pieces of beef, and a whole pigeon were steeped in glycerine, and after a lapse of forty days the preservation was still perfect. The tissues had somewhat contracted; they were partly transparent and gelatinous, but still quite compact. Experiments on the same subject when the glycerine was diluted with water gave similar results.

All a Mistake!—An oyster vendor, in the King's Road, Chelsea, was discovered, a few days ago, by the Inspector of Nuisances of the parish of St. Luke, Chelsea, selling American oysters in so decomposed a state that they could be opened with the fingers. Of these delicacies, of the state of which the seller must have been well aware, as he recommended a strong accompaniment of vinegar and pepper, the Inspector seized 92, and followed up the seizure by bringing the culprit before the magistrate at Westminster. The defence was that the oysters were sold by mistake, whereupon Mr. Arnold said that, in that case, he had better go to the Vestry clerk and explain the matter. Under such comfortable treatment, we do not doubt but that the *mistake* will be repeated *ad infinitum.*

Some very curious illustrations of the manners and customs of mediæval Lancashire people are to be found in certain documents belonging to the parish of Prescot. Amongst the items we have the following:—"1542. That ale shall be sold at twopence per gallon the best, and three-halfpence per gallon for the second sort. 1566. That George Sadler is a common drunkard; that the wife of George Sadler is a thief or petty filcher. 1607. An order against putting butter on bread or cakes on forfeiture of five shillings per time; an order for ale to be sold at one penny per quart out of doors. 1609. An order that the constables pump Alice Allerton so often as she comes into the streets to chide or abuse herself. 1630. Richard Halsall prosecuted for saying the town was governed by fools. 1633. An order for banishing out of the town a woman called Pretty Peggy. 1672. Several prosecuted for bringing corn to the market better at the top of the sack than at the bottom. 1696. Mr. Parr for tussling with Esq. Cross, and Esq. Cross for tussling with him again."

ANSWERS TO CORRESPONDENTS.

R.J.S.—According to Dr. Muter, the process you mention for the estimation of alum in bread is not reliable. The following will be found to be a good method:—A quarter of a pound of bread is to be first charred to a cinder, and then, having been reduced to powder, it is to be ignited in a muffle at a very gentle red heat until the ash is white, or nearly so. The ash is then to be digested in strong hydrochloric acid, the solution filtered and evaporated to dryness. The residue is to be once more treated with strong hydrochloric acid, then diluted with water, boiled, and filtered. Caustic soda is then to be added to the filtrate in excess, and the whole having been digested for some time at a gentle heat, it is to be once more filtered. To the precipitate, chloride of barium is to be added cautiously till it ceases to produce a precipitate, and then carbonate of soda in excess, and lastly, some caustic soda. The whole being once more digested at a gentle heat, it is then to be filtered, and the filtrate having been slightly supersaturated with hydrochloric acid, it is to be boiled with carbonate of ammonia, and the precipitated alumina collected, washed, dried, ignited, and weighed in the usual manner. A proper amount of washing must of course accompany each filtration throughout the process. The weight of the precipitate in grains, multiplied by 8·806, will represent the amount of alum in the quantity of bread taken, and this result multiplied by 16 will be the amount of alum in the 4 lb. loaf.

OUR EXPERIMENTAL COLUMN.

"Palatable" Cod Liver and Castor Oils.—We have been requested by Messrs. Fox & Co., of Manchester, to report upon these preparations. Although it is scarcely within the province of the *Food Journal* to analyse medicines, yet we have in this case waived this objection, as we are certain that most of our readers, in common with ourselves, have at one time or another made an enforced acquaintance with these nauseous drugs. Are there any of us who have not a vivid remembrance of the alternate coaxings and threatenings necessary to induce the occupants of the nurseries to swallow the disgusting dose, whether surreptitiously introduced, beaten up with an egg, or taken by the more crude method of swimming it in water and bolting it *au naturel?* We have accordingly sent samples to our analyst, and he reports that they both contain the substances which they profess to do in proper proportions, and that they are so manufactured as to completely disguise the taste, as well as to render them more easily assimilable by the digestive organs. We believe that they have only to be thoroughly known to secure a permanent place in the family medicine chest, and, having had some of the cod liver oil tried by a friend, we are informed that there was an absence of the disagreeable eructations so well known to our unfortunate fellow-sufferers who are obliged to take the ordinary oil.

Orange Quinine Wine.—We have received a sample of this preparation from Messrs. Goodall, Backhouse, & Co., Leeds, with a request for its analysis. Knowing as we do that so-called quinine wines are too often merely so in name, containing only a trace of that valuable alkaloid dissolved by the help of sulphuric acid, in a decoction of cheap bitters, we are glad to be able to say that our analyst reports this to be *actually* an article containing a proper proportion of quinine, held in solution by the aid of an organic acid, as directed in the British Pharmacopœia. Being an honest and useful preparation, it, therefore, must receive our complete approbation.

BOOKS RECEIVED.

Is Total Abstinence a Christian Duty? Stock.
Report of the Health of Liverpool. By W. S. Trench, M.D.

THE

FOOD JOURNAL.

FOOD ADULTERATION.—PART II.

THE Committee, in their suggestions for suppressing adulteration, laid much stress upon the provisions of the Bread Act before mentioned, because it seemed to them to comprise much that might be useful in framing a measure applicable to adulterations generally. Why such stress should be laid upon this Act it is difficult to discover a valid reason, for it is notorious that although the Act came into force in 1823 in London, it was almost a dead letter even up to the time of the sitting of the Commission, and was proved to be so by several of the scientific witnesses examined. That the machinery connected with the Act was defective must have been self-evident, when it was given to the Committee in evidence that the adulteration of bread extensively prevailed, and yet there had been no prosecutions.

The further suggestions given for an effective Adulteration Bill were that the execution of the law against adulteration should be left in the hands of the local authorities, and that assistance should be afforded these governing bodies by the appointment of local analysts, and also of one or more under the authority of the General Board of Health, to whom such important questions and cases might be referred requiring more skill and general knowledge than could be supplied by the local analyst.

In connection with the sale of drugs and poisons, the Committee made some excellent suggestions; and although the seed sown in the report has been a long time in bearing fruit, it is satisfactory to know that the Pharmacy Act of 1868 gave power to the Pharmaceutical Society to make regulations for the sale of poisons, and also established the principle that a chemist is liable to penalties for selling any adulterated articles, because, by the wording of the Act, all admixtures are deemed to be injurious to health. However, if the chemist can prove that he was not aware that the article was adulterated, he is not liable to a penalty.

To summarise the short history given of what has been done to check the adulteration of food, we may state that up to 1856 there was an Act in existence for the suppression of bread adulteration which contained pains and penalties of a very severe character, although other substances, with the exception of exciseable commodities, could be adulterated with impunity; that in 1855 and the following year Mr. Scholefield's Committee obtained evidence of adulteration and the extent of it, and from this evidence, assisted by the opinions and recommendations of men supposed to be well acquainted with the subject, they suggested a Bill which would probably work effectively to carry out their views respecting adulteration; and these suggestions were presented to the House of Commons in July, 1856.

From the importance of the subject, and its bearing on the health of the community, there was every reason to expect that legislative action would have been immediately taken by one, if not more, of the members of the Committee; but matters were allowed to remain just where the Committee found them till 1860, when Mr. Scholefield got an Act passed for "Preventing the Adulteration of Food or Drink." Its author has gone to his rest, but the Act still remains in force, and might, without any breach of charity, be called "Scholefield's folly," as time has proved that, instead of giving power to do what its title would lead the public to believe, the Act is simply a dead letter. Why it has been inoperative was explained in the April and June numbers of the *Food Journal* for last year; but, lest some of the readers of this article should not have the numbers at command, it may simplify matters to give an outline of the Act itself.

Offenders within the meaning of the Act are those who sell any article of food or drink which, to the knowledge of the vendor, contains any substance injurious to health; or who sell as pure any adulterated article of food or drink.

The penalties for these offences are not to exceed 5*l.* and costs; but for a second offence, in addition to the penalty, the name of the offender and his offence are to be published in the newspapers, at his expense.

Power is given to the Commissioners of Sewers of the City o London, to the vestries and district boards in other parts of London, to the court of quarter sessions of every county, and to the town council of any borough, to appoint, for the purposes of this Act, an analyst or analysts possessing competent medical, chemical, and microscopical knowledge.

The Act further states that on the hearing of any case before the

justices, the purchaser must prove, to the satisfaction of the court, that the seller of the adulterated article or his servant knew that such article was to be analysed, in order to secure the article from being tampered with; and before a conviction can be obtained it is necessary that satisfactory proof be given that the adulterant is injurious to health.

When these provisions are carefully looked into, even a non-professional man would very properly shrink from prosecuting any person for adulteration. It may be asked who would be bold enough to make a purchase and tell the seller, who might be perhaps a neighbour, that he suspected his goods were adulterated with something injurious to health, and that, therefore, he intended to have them analysed? Or, who could prove that the vendor *knew* the article was adulterated with a hurtful substance at the time of sale? Even if a man had courage enough to get evidence which to his mind would be sufficient to prove the case, he must be rash indeed to undertake such a task when, if he failed, he would have to bear the expenses of the prosecution.

Men gifted with ordinary common sense prophesied, at the time when the Act was passed, that it would be harmless in its operation, on account of the difficulties put in the way of the prosecution; and these prophecies have been fulfilled. In proof of the truth of this statement, Dr. Letheby, the Medical Officer of Health for the City of London, said publicly, some time ago, that the sanitary authorities of the City actually invited persons to make purchases of samples for analysis, which were to be done free of expense to the purchaser; yet even with this liberal offer not one prosecution has occurred, as persons are not willing to undertake the expense and responsibility of a prosecution.

The question which might be suggested by these regulations, and which at the same time could not be satisfactorily answered, is whether Mr. Scholefield did not get the Act passed for the protection of adulterators? It has certainly answered this purpose admirably, for without doubt adulteration can now be carried on with impunity, and the fraudulent trader is at the same time well aware that he will not be punished.

Last year Mr. Muntz, successor to Mr. Scholefield in the representation of Birmingham, tried to improve the Bill of 1860, but without success. The Bill introduced by Mr. Muntz differed but little from its predecessor, except that the maximum amount of penalty was increased from 5*l.* to 50*l.* in the case of the man who adulterated the goods, and from 5*l.* to 20*l.* where a person sold goods knowing them to be adulterated. The objectionable clauses

remained untouched; and with respect to the fines, if they had been increased a thousandfold the Act would have been inoperative, on account of the difficulty in the way of securing a conviction. This Bill, with certain slight modifications, has been again introduced into the House of Commons during the present Session, and there is little doubt that it would have shared the fate of its predecessor, had not Mr. Muntz proposed to withdraw it in favour of Mr. Stansfeld's Public Health Bill.

The rock on which the Adulteration Committee were shipwrecked was that which was so prominently brought into notice by several of the scientific witnesses examined by the commission, viz., that the duty of carrying out the provisions of any Adulteration Act should be entrusted to a local board. Now, local boards, especially in boroughs, consist almost entirely of tradesmen who are well acquainted with the tricks and crooked ways of trade. Such men, who have looked upon adulteration from their youth as a harmless matter, cannot be expected to put themselves to any inconvenience to suppress adulteration, especially as a good portion of their profits in trade has been derived from the sophistication of the goods sold by them to the public. We sometimes read of such men as Budgett, the successful merchant, who nobly declined to have anything to do with adulteration; but such instances are rare. Again, borough magistrates, too, are often tradesmen, and they would naturally lean more to the side of the adulterator than of the prosecutor. Therefore, between the tradesmen members of local boards, who are appointed to carry out the Adulteration Act, and tradesmen magistrates, it is not likely that the Adulteration Act of 1860, or any other drawn after the same model, will be very zealously carried out; and the experience gained during the last twelve years teaches the same lesson.

Why the Committee should have been less shrewd than ordinary men of the world, and have been led away by such bad advice, there is no evidence in their report to show; but time has proved that they were wrong in listening to such advisers, who seemed to be quite unaware of the wants of the country. Such men as Dr. Carpenter advocated a very different course. They thought that the first step necessary to take to suppress adulteration was to put the whole matter under Government, and thus throw upon it the responsibility of appointing efficient officers for the proper performance of the duties. The case was also submitted for consideration to several of the witnesses by the Committee whether the whole of the duties connected with the suppression of adulteration could not be undertaken by the Excise.

Nearly all agreed that the Excise officials might be so employed, and the Committee reported that the Board of Inland Revenue "had 4,000 officers scattered over the country whose experience enables them to detect many adulterations; and to discover cases of strong suspicion the Board employs sixty or seventy analytical chemists educated for the purpose at University College." Here we find a staff sufficient to check if not to suppress adulteration, if they had the authority to do so; and as these officers and analysts are paid by the country, it is only right that they should not only be employed for the detection of adulteration of exciseable commodities, but also for the adulteration of food and drink.

Mr. Bruce, in his Licensing Bill, intended to utilise this staff for his purposes; and on similar grounds the public have a right in demanding that their own analysts should protect them against the adulteration of food. If a Government Adulteration Bill were passed, and the duties transferred to the Inland Revenue, it is probable that a slight increase in the staff of officers and analysts might be necessary; but even such an increase would be small, and the increase in the salaries would be nominal only.

In all matters of this description, where the work to be performed requires exactness and nicety, great advantage is derived from possessing a central laboratory placed under the direction of a chemist of experience, thoroughly competent to undertake the supervision of the whole of the work. The expense of sending samples from the country would not be great, and this slight outlay could bear no comparison with the benefits derived from the employment of a staff of analysts well conversant with every kind of adulteration, and whose daily work would fit them to do their duty in an expeditious and reliable manner.

To show the inconvenience of the present system of appointing county and borough analysts who are not controlled by a chemist of experience, the following case will afford an illustration: — Some time ago a loaf of bread was purchased from a baker in Gloucestershire, and analysed. The chemist said that he found alum in the bread, and as the baker denied having used any, but admitted having used a well-known baking powder, the case, when it came on for trial, was adjourned by the magistrates, to allow of an analysis being made of the baking powder. The manufacturer of the baking powder also employed two chemists of repute to examine it for alum, and while they found alum absent, the local chemist discovered its presence. Further investigation showed that a mistake had been made in testing for alum both in the bread and the baking powder, and the

chemist had to admit this to the magistrates. This result was certainly satisfactory to the baker, but the exposure and annoyance of a prosecution could not be compensated for by any expressions of regret on the part of the analyst who made the mistake. Now, in a central laboratory no such mistake could have arisen, on account of the constant supervision of the principal of the department, whose practical knowledge would lead him and his assistants to avoid sources of error in the examination of samples submitted.

From past experience we are led to the conclusion that an Adulteration Act can only be of real service when the machinery is under Government control. Local boards have failed, and always will fail, simply from their constitution, and not from any desire of such bodies to evade responsibility; hence the power hitherto entrusted to them, but which they have not exercised, should at once be transferred to the Government.

An Adulteration Act, to be really effective, should be founded on the following bases:—

1st. The Government should be solely responsible to the public for the suppression of adulteration of food and drink.

2nd. The staff of analysts and officers necessary to detect adulteration should be provided by the Government, and be under its own control.

3rd. The Government should, as in Excise cases, undertake all the expenses connected with such prosecutions; and the Government should have no discretionary power to compromise cases in order to prevent their being taken into court.

4th. No description of adulteration should be allowed. In the case of simple mixtures, such as chicory and coffee, mustard and flour, they should be labelled to show their composition. For a breach of this regulation a small fine only should he imposed.

With respect to adulterants injurious to health, provision should be made in the Bill that the names of such adulterants as were considered hurtful should be entered in a schedule at the end of the Act, and power should be reserved to the Privy Council to add the names of other substances whenever necessary. This simple plan would do away with the difficulty of proving to the magistrates that the substance used was injurious to health.

The Privy Council should also have power to state what harmless substances might be used to colour confectionery.

The scale of punishment under the Bread Act might be made the basis for punishing offenders under this Act. Thus, for a first offence the defendant might be fined such a moderate amount as would not

cripple him in his business, but yet high enough to be really a punishment. For a second offence he should not only be fined, but the nature of the offence should be published in the newspapers, and placarded at the place of business where the offence was committed. For a third offence the punishment should be imprisonment without a fine.

An Adulteration Bill embodying the above suggestions would, we are sure, be very effectual in suppressing adulteration; but, on account of the commercial interest being so strong in the House of Commons, we are not sanguine enough to believe this Parliament will allow such a measure to become law. The advocates of a stringent Adulteration Bill are sorely hampered with the views and opinions of those persons who, although well acquainted with the requirements of legislation necessary for the protection of the public health, are yet in favour of harmless adulteration being carried on to the fullest extent. But the question at once arises, Where is the line to be drawn between harmless and hurtful adulteration? No satisfactory answer can be given to the question, and an Adulteration Act drawn on such a basis would be as useless as those at present in the statute book.

A remedy to be effectual must be sharp and decisive, and if the Legislature could be prevailed upon to throw overboard all commercial suggestions, and the views of one or two persons in high places, and endeavour to frame a just Adulteration Bill, the country would be grateful and commercial interests would not be sacrificed. Those who would lead the way in such a course would certainly be rewarded, not only by the satisfaction of having done their duty, but also by public opinion acknowledging that they deserved the best thanks and well-merited confidence of their countrymen for doing an act of justice, the benefits of which would, in actual experience, be found to be priceless.

R. Bannister.

At a recent meeting of the *Société d'Encouragement*, at Paris, a specimen of meat was exhibited by M. Tellier, a civil engineer, which had been kept fifteen months by a new process of preserving. It had been dried *in vacuo*, in the presence of an absorbent. Under these conditions the meat loses 20 to 25 per cent. of its weight. It differs notably from the meat dried in America, in that the process is performed in the cold state and without exposure to the atmosphere, so that it is impossible for the meat to acquire any peculiarity of taste. In this way we get not mere dried strips of the muscular portions of the carcase, but ordinary joints, with their proper allowance of bone, fat, etc.—in short, all that renders meat best fitted for the *pot-au-feu.—Musée de l'Industrie Belge*, 1871.

SHETLAND: ITS MANNERS AND DIET.

UNTIL within the last few years, Shetland was almost a *terra incognita*, and the visitors to its bleak and barren shores were few. The state of things is greatly changed; the number of tourists increases every year, and, indeed, *Ultima Thule* bids fair to be as regularly "done" as any other fashionable resort of the pleasure-seeking Briton. The absurd notions entertained respecting Shetland, its climate, and its people, are, as a consequence, rapidly vanishing, to be replaced by others more correct. The climate of Shetland was generally supposed to be little better than that of Iceland, whereas the mean winter temperature is higher than that of Edinburgh. It is a remarkable fact that the winter climate of the west coast of Britain, everywhere higher than that of the east coast, scarcely varies from the south of Wales to Shetland. The winters of Shetland are so mild that snow never lies long, and the lakes and ponds are rarely frozen so hard as to bear a man's weight. It has been asserted that the mildness of this season, causing premature growth of the tender shoots, which is afterwards checked by the frosts, is one reason why trees will not grow in these islands, although probably the storms, and the sea-spray carried by them, have more to do with it. In winter, however, although there are frequent and severe gales from every quarter of the heavens, yet there are very many clear bright days. At such times, and still more in summer, the sky has quite an Italian look. The shortest day is about seven hours in length, during which there is light sufficiently good for all practical purposes; and in summer there is no darkness at all from the beginning of May till the end of July, the smallest print being quite legible at midnight.

The completely isolated state in which the people of Shetland so long lived no doubt tended to draw a distinct line of separation betwixt them and the rest of Great Britain; but this is disappearing, and their assimilation to their fellow-countrymen every day becomes more perfect. The style of living among the better classes is the same as among their equals in Scotland, and their houses are supplied with every requisite of modern comfort and luxury. The common people, on the other hand, are farther behind in their domestic condition, and their houses are somewhat similar to the Scottish cotter's house of a century ago, specimens of which may still be seen here and there in remote and

secluded parts of the country. In Shetland the mansion-houses of the gentry are substantial edifices, in one instance costing as much as 20,000*l.*; but the dwellings of the tenantry are rude huts with thatched roof and walls without lime. They are of one storey, about 26 ft. long and from 14 to 16 ft. broad. They are divided into two apartments by a wooden partition, or by the arrangement of the box-beds. The outer and larger is called the *but*, and is the sitting-room, dining-room, and bed-room of the greater portion of the family. The smaller apartment, or *ben*, is the chamber of state and the bed-room of the heads of the family. The furniture consists of two or three beds, a small table, a stool or two, and the *resting-chair*, a long high-backed settle. In every house there is a row of chests along one of the walls of the larger apartments, in which the clothes and other valuables of the family are kept. The fire is on the hearth, and all sit round it. When the family is large, a plank of driftwood placed on two stones is often used as an additional seat. The Shetlanders burn large fires, and the smoke escapes through a hole in the roof. At times, however, it fills the apartment in dense volumes, and is very disagreeable to the eyes and lungs of the inmates. Simple and primitive as these houses are, they are very comfortable inside, and are a great improvement on the dwellings of even forty years ago, in which not only the family, but all their live stock, housed in one apartment. With the exception of young lambs, yearling calves, which are taken in from the outhouses in bad weather, and the pig, which is as familiar about the house as a cat, all the other quadrupeds now have their own separate abode. The fowls, however, move freely out and in, and generally make the family beds their roosting-place.

In Shetland the distinction between landlord and tenant is very wide, and they may almost be regarded as of two entirely different races. The great *lairds*, or landowners, who hold nearly all the property, are all of Scottish descent, while the rest of the people are almost all of Danish and Norwegian origin. A few of the old Udallers still remain, but their condition is not much better than that of the ordinary fishermen. They own their own crafts, which is all the difference, and is indeed a very questionable advantage. Even yet there is no great liking among the Shetlanders for British rule, and some regret that they were ever separated from Norway. They regard Scotchmen very much in the light of foreigners, and bear no very good will towards them. This is no doubt, in a great measure, owing to the cruelty and oppression exercised upon the poor natives by the men who came over from Scotland at the time when Shetland was annexed to that country, and whose

misdeeds engendered an intense hatred in the minds of the islanders against every one who bore the name of Scotchman. Till the end of last century there was more intercourse between Shetland and the Continent than with Scotland. Dutch money was, in great measure, the circulating medium, and gentlemen sent their sons to Hamburgh or Holland for their education.

The Norse language became extinct in Shetland about eighty or ninety years ago, but some traces of it still linger. The better classes speak like any well-educated Englishman, but the common people have a peculiar *patois* of their own, not very intelligible to strangers; they always sound *th* as *d*, and where an Englishman would employ the auxiliary verb *to have*, they invariably use the verb *to be*. Thus they say, *I am been*, for *I have been; he was done it*, for *he had done it*, and so on. In speaking to their superiors, however, they use a much better style of language than persons of the same class in Scotland.

The Shetlanders are very soft and gentle in their dispositions, naturally polite and well-bred, and very anxious to live at peace with one another. As a rule, they are affectionate husbands and fond parents. It is said that the children do not always repay the paternal love, but in too many cases regard the old folks as a great burden, when they are no longer able to support themselves. But extreme poverty may have as much to do with cases of this kind as want of proper feeling. The Shetlanders never like to part with any of their children, and when a young couple marry, the bridegroom usually takes his wife home to his father's house; and as many as three sons with their wives and families may be found living under the father's roof, all dwelling peacefully together. This would be reckoned an intolerable nuisance in most other places, but it is not so in Shetland. The women are great helps in cultivating the land, carrying peat, and so forth, and every additional female is so much strength added to the power of the household. A weak or sickly wife is the greatest calamity that can fall to the lot of a poor Shetlander. In their marriages the women generally have advantage in point of seniority, and it is not uncommon for a mere lad of nineteen to be wedded to a wife of thirty or upwards. Thursday is their marrying day, and, in accordance with ancient custom, shots are fired as the marriage party go to and from the place where the ceremony is performed. In our next article we shall speak of the Fisheries and Food of the Shetlanders.

Angus Willans.

[to be continued.]

AMERICAN "TIPPLING."

WENDELL HOLMES assumes that "hospitality is a good deal a matter of latitude." And might not "tippling" be reasonably referred to the like cause? I apprehend so. The inordinate craving for strong drink is so marked among some peoples, that such a theory does not seem far-fetched or indefensible. Possibly it would not be very hazardous to assert that a few of the vices, no less than the virtues, which characterise humanity, are partially owing, if not directly traceable, to geographical, climatic, and atmospherical causes. Among the notable peculiarities of Americans, that of tippling is prominently conspicuous. Our cousins are, as it were, "to the manner born." If there be an exception to the general rule, it will be found to exist in the New England States, where a considerable profession is made of religion, and where Christian ministers are frequently total abstainers. Taking, however, the Americans as a body, they unquestionably exhibit a proneness to this vicious habit, causing thereby no small share of anxiety to those philanthropists and sociologists who regard the drinking customs of the people as the chief bane of the Republic. And probably they are right in their apprehension.

In the great cities of the United States the practice of tippling is most indulged. When people are brought together, either by business or idleness, the ceremony of "liquoring" appears indispensable. One could scarcely offend an American more than by declining an invitation to take a drink. Often has the writer, by endeavouring to avoid the possibility of an offence, been morally compelled to accept favours of this nature, although, were he to consult his own wishes, he certainly would have preferred not. The temptation to touch the dangerous cup is considerable—so strong indeed at times as not to be resisted. As a means of recreation, the bulk of the male population resort to hotel bars and similar places. Here men drink and chat, form social groups, and persevere in treating each other, until the possibility is that they take, to employ a popular phrase, "more than is good for them." The discomfort consequent upon hotel life forces strangers to have recourse to the bars and the billiard-rooms, which are made tempting and inviting, not alone by their glare, but by their exquisite appointments. Some of the hotel bars and billiard-rooms

are most elaborately furnished and decorated; the former especially are rendered terribly tempting by the luxurious sofas and easy chairs that are scattered around the saloons. Sometimes these saloons become so densely thronged with people that there is difficulty in elbowing one's way to the "bar," where showily-dressed male attendants, with conspicuous jewellery, immaculate linen aprons, and having their shirt-sleeves tucked up, perform the occult mysteries of their *spiritual* office.

The Americans are not wanting in the power of invention. Hence the variety of drinks ingeniously concocted at public places of refreshment. "Man is a creature born of habitudes," observes the recondite Tristram Shandy; an axiom which in the mere matter of potations is daily verified by our transatlantic friends. The practice is to commence with a brandy or gin "cocktail" before breakfast, by way of an appetiser. Subsequently a "digester" will be needed; then, in due course and at certain intervals, a "refresher," a "reposer," a "settler," a "cooler," an "invigorator," a "sparkler," and a "rouser," pending the final "nightcap," or midnight dram. But let me rehearse the names of the drinks most in vogue. They may be thus enumerated:—Mint julep and julep *à la* Captain Marryat, brandy julep, whiskey julep, gin julep, rum julep, champagne cobbler, sherry cobbler, brandy smash, gin cocktail, Jersey lightening, soda cocktail, gin sangaree, American milk punch, Scotch whiskey skin, brandy sour or brandy fix, beer sangaree, peach brandy and honey, Tom and Jerry, black stripe, sleeper, hot spiced rum, brandy flip, Stonewall Jackson, egg nogg or auld man's milk, burnt brandy and peach, yard of flannel, locomotive, corpse reviver, stone fence, Baltimore egg nogg, iced and mixed punch, the alderman's punch, gin twist, President Washington, President Lincoln, and General Grant.

It is not generally viewed in the slightest degree derogatory for any gentleman to take refreshment at public "bars." I have myself imbibed at these places with members of the Government, the Senate, and the Legislature—with judges, generals, and even clergymen. Still I was not obliquitous enough but to perceive that what considers itself the "best society" is opposed more or less to these places of public resort, and there can be no doubt that they are morally and socially injurious in their tendency. Many a man through frequenting the same is induced to overleap the bounds of moderation, and rush into excess. But even this does not embrace the worst features of a practice for which there really seems no remedy. Quarrels and altercations sometimes take place, much time and money are unprofitably wasted, while a habit

is fostered which now and again terminates in the destruction of a young man's character and prospects.

In New York and other cities, bar-rooms are to be found of a peculiar character. From the external appearance of the "stores" in which these are concealed, one not initiated into the dodge would never suspect that anything was wrong. You enter a showy, highly respectable-looking establishment—it might be that of a fruiterer or a grocer—where everything looks "serene." Should materfamilias and her dear daughters happen to pass by and observe the grave head of the family within such premises, how could they, dear innocent souls! fancy what delicious charm formed the source of attraction there? Alas for human deception! Just walk through the store proper, undeterred by any apparent obstacle in your path, and after a while turn to the right or to the left, and then a new and, to a novice, startling scene will open up before you. You will find a neatly fitted up "bar," replete with all the needful accessories, and possibly, at any time of the day, a half-dozen or a dozen "quiet" folk like yourself enjoying themselves over their favourite tipple.

I have, in my American travels, met with certain folk who do not like to drink much at one place, let it be a bar-room or even a club. Others, again, are fond of tippling, but they like to gratify their taste without being observed. The famous Theodore Hook had a pet passion for imbibation, which finally proved fatal to him. This he endeavoured to conceal as far as possible when in company. Hence he appropriated a favourite corner by the refectory door of the Athenæum Club, of which he was a distinguished member. From this snuggery he gave his orders to the waiters, who had long learnt the import of his hyeroglyphical language. The calls were repeated for "toast-and-water," or "lemonade." But the former meant brandy, and the latter was the synonyme for gin! So that his drink was not the unalcoholic infusion of Vervain, or of the herb Hanea, so praised for its effects by Ælian, and which the physiologist Walter Shandy recommends to his devoted brother Tristram, of immortal memory.

A curious specimen of the *genus homo* is to be found in the bar-rooms of America. Ethnologists might study him with advantage. Certes he possesses the outward semblance of a man, but is wofully wanting in those attributes with which our great dramatist endows human nature. No one, for example, can pronounce him to be noble in reason, infinite in faculty (except the indomitable craving for drink), like an angel in action, like a god in apprehension—the beauty of the world, the paragon of animals! He

is known by the significant but inelegant cognomen of "loafer." He dresses well as a rule, talks well, may be, and is bearable for a time, when he grows insufferably wearisome, and indeed obnoxious. Those who know him avoid him; those who do not are often taken in. He lives no one knows how, while his place of domicile is a like mystery: in a word, he is incomprehensible. He is rarely seen except in hotel bar-rooms, or where "free chowders" and other gratuitious luncheons are given to "customers." Hence, from the noun-substantive *loafer* is derived the active verb *to loaf* (from the Dutch "*Caufeu*," "to idle about"), to which, unfortunately, there appears a growing disposition amongst "Young America" who would disdain the opprobrious but appropriate epithet of "loafers."

But in the lowest deep there is yet a lower deep. The "loafers" are far outdone by the "bummers," an appellation, however inelegant, still significant of one particular habit of this class. They are distinguishable from their kinsmen, the "loafers," by their shabby-genteel appearance, which, in sooth, is the special badge of the tribe. Rules and regulations have they, by which they are said strictly to abide. Here is a specimen:—1. No "bummer" is suffered to take breakfast. 2. No private drinks must at any time be indulged in, under the penalty of "drinks round." 3. No "bummer" must "stand out," under any pretence. 4. No "bummer" must make any "useful observation," upon which the guild is particularly stringent. 5. No "bummer" must presume to wear clean linen, like the "loafers." 6. No "bummer" must entertain political opinions other than democratic. 7. No "bummer" shall allow that he has been in the State prison. 8. A "returned Californian" is a qualification for membership.

It would perhaps be difficult to decide who tipples the most—the Northerners or the Southerners. So far as the writer's experience goes, he would give the palm to the latter. The Bourbon whiskey, so generally indulged in, has a mighty power. No doubt the tippling tendency has been aggravated by the late war, or rather by a bad habit contracted during its early stages, before intoxicating drinks became impossible to procure. One chilly evening, when hostilities between North and South first commenced, I happened to ride out from Richmond to Fairfield on a visit to General Cobb, who was encamped with the legion he raised. After the usual courtesies had been exchanged between us, I delicately suggested that a little brandy-and-water would not be objectionable. My friend was horrified. Brandy, forsooth! "I tell you what it is," quoth the General, "I do not drink myself, would give no drink to

my friends, and did I know of an officer of mine taking any kind of spirits or intoxicating beverage, he should cease to belong to my command." After a while I went a few yards off, entered the Colonel's marquee, where I repeated General Cobb's remark. A goodly gathering of officers had assembled, who were indulging pretty freely in excellent Bourbon. They laughed heartily at my story, and ere I took my leave, made me drink to the health of their general—which I unhesitatingly did.

I am convinced that tippling in the United States cannot be totally repressed, or even moderately restrained, by acts of local legislatures. The experiment has been tried, and has failed signally, so that the sheer force of popular opinion has caused, in some places, one legislative enactment to annul another. When prohibitive laws were in force in certain States, people tippled as though full license were granted to do so. Hotels closed their ordinary bars, it is true, but if they did they opened others in less conspicuous parts of the buildings. Men drank just as before, and spirituous drink was just as procurable as before. Nothing was changed but the law, which said "Thou shalt not drink!" and that law became to all intents and purposes a dead letter. Even on Sundays, folk so disposed can indulge their tippling propensities in New York and other cities of the Union. There are certain places the doors of which will open to a magic knock with the knuckles. You walk up-stairs, and can call undismayedly for what you want, contrary to the statute made and provided for the better observance of the Lord's Day. I fancy the civic authorities must be cognizant of this fact, but they prudently shut their eyes to what does not directly concern them..

S. Phillips Day.

Important Sanitary Reform.—Her most gracious Majesty the Queen has given a fresh proof of the solicitude she invariably evinces for the wellbeing of her army, in drawing attention to a flagrant abuse which has long existed in barracks. It appears that soldiers, married even with leave, have been so herded together that sometimes three families have been the joint occupants of one apartment. Her Majesty's interference has resulted in an order that in all new barracks to be erected suitable married quarters shall be provided. The *Morning Advertiser*, commenting on this concession, suggests, with considerable force, that the privilege ought to be extended to all married soldiers, whether with or without leave. If this could be done without endangering discipline, it would prove an inestimable boon, and it is a subject well worthy of the attention of our army reformers.

COOKERY PAPERS.

No. 9.—FISH—(Continued).

Dr. Kitchener says that the Dutch are as particular about buying their fish alive as the Romans, were according to Seneca. The latter were great lovers of fish, and no expense was spared to pander to their tastes. Vadius Pollion, in the reign of the Emperor Domitian, fed his eels with the bodies of slaves whom he slew for that purpose. The Romans preserved their fish alive in ponds, and those belonging to Lucullus fetched, at his death, a sum equal in our money to 25,000*l.* sterling. Lucullus cut a canal through a mountain, so that fish might be transported more easily to the gardens of his villa. Apicius made an expedition to the coast of Africa on hearing that lobsters of an immense size were to be obtained there, but after a troublesome voyage he was disappointed in the object of his journey. Hortensius, the orator, wept over the death of a turbot which he had fed with his own hands. Red mullet, "the woodcocks of the sea," were highly esteemed by them. Juvenal mentions one sold for 48*l.*, and, according to Pliny, another made 64*l.* So fastidious were they about the freshness of their fish, that it was considered necessary to show them to the guests alive. They were produced in crystal receptacles, and the epicures of that day found much pleasure in beholding the varying colours which the mullet exhibits when dying, for they were cooked before their eyes in crystal vases, so that the beautiful colours of the fish might be displayed varying under the hand of death. When fresh, these fish are of a delicate rose-colour with yellow stripes, but these colours quickly fade after they are removed from the water.

The bass is highly extolled by Pliny and Ovid; it is held now in much repute in Cornwall, where it is dressed in a variety of ways. Madame de Sévigny's story of the death of Vatel, though well known, is too good to be missed. He was *maître d'hôtel* to Condé, who at the time was entertaining Louis Quatorze. Vatel was very anxious about the arrival of the fish, baskets of which he had ordered from every possible source. He was up early, and, meeting one of the purveyors with two baskets of fish, he asked, "Is this all?" "Yes, sir," replied the man. He waited dejectedly for some time, but, no more fish arriving, he believed there would be no more.

Meeting Gourville, who made light of the trouble, he said that he should never survive this disgrace. He went to his room, placed his sword against the door, and stabbed himself to the heart. The fish, however, arrived from all quarters, and people, seeking Vatel to distribute it, found him bathed in his blood. The king said that he had delayed visiting Chantilly for five years, knowing the embarrassment he should cause — such an intense acuteness of the sense of honour for the credit of his profession did Vatel possess!

Years ago the inhabitants of Plymouth were esteemed lucky above others on account of their dwelling in a town abundantly supplied with red mullet and John Dorys. By the way, there is much controversy as to the origin of this name. It is said by some to have been derived from the French Jaune, alluding to its yellow colour;* others assert that it is derived from Janitore, the name by which Italian fishermen know the fish, and which was given it because it was supposed to be the species of fish in which St. Peter found the piece of tribute money—and St. Peter kept the keys. It is easy for any one to see how Janitore has been corrupted into John Dory. Our markets nowadays receive large supplies of these fish and red mullet from Hastings and the coast of Cornwall. A late Duke of Portland used always to spend the summer months at Plymouth for the express purpose of eating mullet. Brighton, too, furnishes excellent Dorys, and many mullet are received from Jersey.

Brillat Savarin says a lordly turbot is an *éprouvette gastronomique*, and relates how a celebrated *bon vivant* contrived to extract equal admiration for two magnificent turbots which had unfortunately been presented to him on the same occasion. The first was introduced—every one was charmed. The fish was being moved from the table to the sideboard to be carved, when, ah!—a slip!—and, lo! the fish was precipitated on to the floor! Consternation was now evident on every countenance. "Bring up another turbot!" cried the *maître d'hôtel*, and the second lordly specimen arrived. The equilibrium of happiness was restored, and each of the turbots served its turn. Both were used and both were greeted with joyful satisfaction. The electric effect which should be produced by a plât of transcendent virtue was created in each case.

Large salmon are considered to be of finer flavour than small ones, though small turbots, I will venture to suggest, the above story notwithstanding, are better than large ones, as far as flavour goes.

* Or, from *jaune doré*, golden yellow.—ED.

This is *en passant.* Miss Edgworth relates how an archbishop, going into his kitchen one day, and finding that his cook had cut off the fins of the turbot, set to work and sewed them on again with his own archiepiscopal fingers. The fins of the turbot are considered by connoisseurs to be a *bonne bouche.* Everybody has heard of the salmon clause inserted in apprenticeship indentures as a protection for the poor boys against being fed too often upon salmon. This matter is now left to the masters *à discrètion.*

In some of the poorer districts of the north of Europe dried fish are ground into powder, to be afterwards formed into bread. In my former remarks on smelts—"the beccaficas of the water"—I stated that our supplies were received principally from fisheries at the mouths of rivers; and I should not have forgotten to mention that large quantities of an inferior quality are received from Holland, and would suggest that probably they are inferior only because, on account of the distance which they travel before reaching the market, they arrive in a state somewhat less fresh than those obtained nearer home.

The liver of the red mullet, it has been suggested, is the only sauce which should be eaten with that fish, but some epicures are so extravagant, as, when eating the Dory, to indulge in sauce made of the livers of the red mullet. The red mullet rarely weighs much over ¾ lb., but 2 lb. fish are occasionally seen.

"Among all fish, whether of sea or river," says Lynch's "Guide to Health," "the middle-sized fish are the best, also those that have not hard and dry flesh, that are crisp and tender, and have many scales and fins." The homogenous nature of fish at once constitutes it a diet for invalids, and also a diet which the strongest stomach will find a difficulty in digesting. There are fish and fish, and we must proceed with prudence and circumspection in our choice of them. When used with a knowledge of their various properties, they are undoubtedly amongst the most valuable sources of food which Nature, in her beneficence, flings at our feet; but when used without discrimination they may become potent mediums for mischief to the delicate organization of the stomach.

A Cook.

An interesting process of preserving grain in vacuum has been communicated to the Academy of Sciences of France, by Dr. Louvel. The cost of the apparatus does not exceed 6*l.*, and when we consider that the quantity of grain rendered useless for human food by the ravages of rats, mice, and parasitial insects, amounts usually to 13 per cent. on a crop, the process ought surely to attract speedy attention.

FOOD IN MAJORCA.

FEW English travellers who visit the peninsula of Spain cross over from the Continent to the interesting island of Majorca. Not being a large island, those who do seek its shores seldom stay long enough to make themselves familiar with the social life of the inhabitants. Yet there is much that is worthy of observation, whether in the matter of history, fine art, or domestic economy. As the climate generally is mild in winter, and not oppressive in summer, while in various parts of the island fresh geological formations are seen on the surface, it is not surprising that the island is fertile, and abounds with great variety of cereals, vegetables, herbs, and fruits. The cereals grown consist of wheat, barley, oats, and maize. Of these wheat is most cultivated, but as a sufficient quantity is not grown for the consumption of the islanders, a fair importation takes place from Greece. The barley is almost entirely cut in a green state, and given for food to mules and cattle. Oats are very little grown, and maize or Indian corn forms the ingredient of the meal, which is consumed like the Italian *pollenta*.

The vegetables of the island (except cabbages, broccoli, cauliflowers, etc., which are grown in small quantities in the gardens near towns) may be classed under the head of *garbauzos*, or white beans, so commonly found throughout Spain, French beans, broad beans, which are eaten pod and all, and lentils.

Herbs, of which a great many kinds are grown, form an important element in Majorcan cookery. Bread and herbs mixed with oil is a staple dish of the upper as well as lower orders. Slices of bread are laid one above the other, the tops of which are covered with herbs, chopped fine, and the whole, almost floating in oil, forms the Majorcan *sopa* or concluding evening repast.

But the island luxuriates most of all in its fruits. These are olives, grapes, almonds, oranges, figs, lemons, raisins, nuts, capers, and the fruit of the cactus, or "prickly pears." Of these, the principal harvest is gathered from the almond tree, the cultivation of which is a source of great profit; for the fields, in which the trees stand planted in rows, yield also abundant crops of corn. No part of the almond tree is wasted; with the use of the inner kernel of the

fruit we are all acquainted, but the hard, outer covering forms capital fuel for the small stoves found in the houses of the wealthier classes. Then the outside of the fruit is largely used in the manufacture of almond soap; the leaves are used for manure; the small twigs for lighting fires; and, when the tree is cut down, the stem is manufactured into household furniture. The kernel of the almond is also made into a delicious and cooling beverage, called *Horchata de almendes.* But who could fail to be impressed with the beauty of a field of almond trees in full flower? Seen from a hill, it looks as if covered with minute flakes of snow, while by moonlight the same effect is rendered still more striking.

Next after the cultivation of the almond comes that of the fig; but as an arid soil is more suitable to this fruit, it is mostly to be found in the plain district to the east of the island, viz., in the parts around Manacor. Figs are mostly dried and exported, though a few are grown for home consumption whilst fresh.

The wine of Majorca is decidedly good, and as the island is small, and there is not much exportation of this commodity, the juice of the grape does not meet with much adulteration. Mostly red wine is grown of a full, generous nature, and rather heady, though the produce of the dry Malaga grape is also to be found. But a great stimulus to viticulture is given by the interest in vine-growing displayed on the estate of General Cotover, at Bañalbufar. The land there in which the vines are grown is kept like the choicest garden, and consists of terraces, bounded by walls, from 20 ft. to 30 ft. high, and ranging one above the other on the face of the cliff overlooking the sea. Seldom are vines to be seen so near the sea shore, but the sea air does not seem to produce any bad effect upon their growth, for they flourish as well as in the interior. The terrace walls, whose outer surface is slightly concave, are carried about 4 ft. above the level of the soil above, in order to protect the young plants from wind. The soil in which they are deposited undergoes careful preparation. At the surface it is of a rich red colour, owing to the exposure of the iron contained in it to the atmosphere. The ground is first of all completely dug out, and the mould separated according to quality. After being entirely freed from stones and completely aired, over 4 ft. of that of the second quality is placed another 4 ft. of the first quality. The young plants are then inserted, and, as soon as they are of sufficient height, are supplied with poles from the Biscayan provinces. Besides the ordinary red wine for daily consumption, two other (white) wines are grown of a superior kind, called Malvasia and Albaflor. Both of these are dry, and of a

strong, fiery nature. After harvest the grapes are first trodden out by feet, and then the skins are further pressed in a wooden machine constructed for the purpose, and a raw leg of mutton is sometimes inserted in the wine vat in order to improve the flavour.

Olives are principally exported into France, to be there manufactured into oil, but a few are grown for eating at the table, and form an invariable accompaniment to every meal.

One of the principal articles of food to be found only in Majorca is the *solresada*, or Majorcan sausage. These are made at Christmas time, of finely chopped pork stuffed in large skins, and highly flavoured with pimento and other spices. They are then hung up in a cool place, and are reckoned ready for consumption after six months' preservation. Each family generally makes a supply enough to last for the year, and this, with bread, forms the food of high and low alike. Indeed nothing, when travelling on foot through the island, is so satisfying and so easily carried. Majorca is noted for its pork as much now as in the days when George Sand wrote "L'hiver à Majorque." The principal pig fair takes place at Palma, the capital of the island, upon St. Thomas' Day. Some of the finest pigs are then raffled for. The fat and inert animal lies on the bottom of a cart drawn by mules, and decked out with ribbons and flags, and preceded by a man with a drum to announce its arrival. The tickets are almost always priced at a real (2½*d.*) apiece, and the aggregate number of tickets often reaches the sum of one hundred duros (20*l.*).

Another indispensable article of food in Majorca is the *eusaimada*, of which there are two kinds. The ordinary sort consists of a light roll, rather sweet, and rolled round in the form of an ammonite; and this is dipped into the morning chocolate, which in Spain always attains a considerable consistency. This *eusaimada* is peculiarly light and simple, and is supposed to derive its excellence from the goodness of the water with which it is mixed. The other kind of *eusaimada* is nearly the same thing amplified for a larger meal. It is closer in texture, and on the surface are inserted pieces of candied lemon and *solresada* at equal intervals. The price of these ranges from one to two duros, according to size; and the reputation that they have acquired is such that they are sent in no small quantities to Madrid.

It is needless to remark upon the *puchero* in Majorca, as it is made in the same way and of the same ingredients as in most parts of Spain; and those who have once acquired a liking for it will not forget how good and economical a dish it is. Another Majorcan idea is that of sending to table a dish of liver and bacon

neatly inserted in the inside of a hen, the little eggs becoming dotted all over the platter. This dish might be advantageously introduced amongst us, as it would help to make, what is so desirable, our *cuisine* more appetising. Of course in an island like Majorca fish is plentiful, and easy to be procured. Lobsters are generally served hot in a pie, and turtles, which are not uncommon, are made into a hash which is not to be despised. But an excellent dish for supper is made from a small fish called the *gerret*, a sort of pilchard, which is found in the Bay of Audraitx. These fish are grilled, and, when cold, are set on the table with a saucer full of onions and herbs of all kinds chopped very fine. When the herbs are judiciously laid upon the fish, and a coating of good oil added, the effect is not displeasing to the palate. Wine is the general accompaniment of dinner, but white brandy, called *aguardiente*, which is often adulterated with the extract from the potato-like root of the *caña*, is served after dinner, and is the drink of hospitality amongst the lower classes. Nothing offends a labouring man more than to go and visit him in his cottage and not taste a *copita* of his *aigordent*, as it is called in the Majorcan dialect. A drunken man is a rare spectacle, but when such is found the cause is generally over-indulgence in this fluid. Its flavour is much heightened by some people by the judicious admixture of rue and other herbs.

The fertility of the pasture lands, more especially in the mountainous districts, renders milk, cheese, and butter of first-rate quality. The peasants indulge largely in the consumption of curds (called in Majorcan *brossat*), which are mixed with red wine or lemon juice, or, lastly, made with milk and sugar and bread into a famous hot dish called *cogolet*, and served in a liquid state. In conclusion, there are those whose fastidious stomachs, when in a foreign land, sigh for the cookery of their native shores, and the dishes, however indigestible, to which they have been accustomed from their childhood; but we venture to think that those who have once learnt to prefer good sweet oil to bad London butter, and are not indisposed to try something new and report thereon, will not speak disparagingly of the Majorcan *cuisine*.

E. HAILSTONE, Jun.

CREAM COCOA IN POWDER.—We have received under this name, from Messrs. Unsworth & Co., a sample of cocoa intended for use without the addition of milk or sugar. We have tried a cup of it in this way, and find that it is of excellent flavour, and moreover very convenient and easily prepared for use.

THE MEAT-PRESERVING ESTABLISHMENT OF MESSRS. JOHN GILLON & CO., LEITH.

Part II.

Essence of mutton, essence of veal, and essence of chicken are prepared in the same manner as essence of beef, and demand no particular notice. It may be mentioned, however, that the essence of chicken is a peculiarly delicate article of food for invalids, an agreeable change from their ordinary articles of diet. It differs little in its properties from essence of beef.

Of preserved meats there are many varieties—as roast beef, boiled beef, stewed beef, minced collops, stewed kidneys, ox-tongues, roast mutton, boiled mutton, roast lamb, lamb-chops, roast veal, boiled veal, tripe, etc.—besides such dishes as haricot of mutton, lamb with green peas, sheep's head, roast veal with green peas, etc. There is a great variety of preparations of meat with vegetables in the most approved forms, and at prices varying according to the nature of the ingredients. In the preparation of all these, and of preserved fowls, fish, etc., the tins are subjected to heat in a bath, the composition of which, and the temperature in its accommodation to the various contents of the tins, are among the secrets of trade, only to be learned by experience, and which those who know them would not readily divulge, as upon them depends much of the superiority of which any particular house can in any case boast over others in the same trade. We do not pretend to institute any comparison between the products of Messrs. Gillon's works and those of others; we can safely, however, say, that in so far as we have tried them we have found everything excellent of its kind, and we confidently believe that the contents of every tin are really what it is professed to contain. We have been informed of instances in which ships' crews, otherwise short of provisions, have owed to these preserved meats the preservation of their lives, and we have heard of no instance in which when the tins were opened their contents were found unfit for use, as was the case with many of the tins of preserved meat supplied to the ships of one of our most recent arctic expeditions.

The tins of preserved meat, after being subjected to heat in the bath, by which they are thoroughly cooked, without loss of their

juices, are rubbed with sawdust to remove the portion of the contents of the bath which adheres to them, and are then painted and labelled. Fish require great delicacy of treatment, and Messrs. John Gillon & Co. profess to have discovered and perfected a process by which they can be preserved without loss of flavour. We can vouch for the excellence of their salmon and herrings, which, when taken out of the tins, if not quite equal to those which may be enjoyed on the banks of the Tay or on the shores of the Firth of Clyde, when they are newly taken from the water, are at least as good as those ordinarily brought to the table after purchase in the markets of our towns.

Of soups, we find in Messrs. Gillon's list no fewer than thirty-four different kinds enumerated. Of some of them we can say that they are very good, but we cannot pretend to have tried them all. Hotch-potch and ox-tail soup, which, from their combination of animal and vegetable ingredients, are very difficult of preservation, we have found to be excellent. The price varies according to the kind, turtle soup being sold at 4*s*. 6*d*. per 1 lb. tin, whilst some of the other soups are not a fifth part of that price. The soups are made of such strength that an equal quantity of water must be added to them when they are to be used, and thus in one minute a good basin of hotch-potch, ox-tail, mock-turtle, or other such soup, may be obtained at a cost of about threepence, being less than the same kind of soup would cost if prepared in the ordinary manner for a family. The preparation of these soups in Messrs. Gillon's establishment has been conducted by the same person for upwards of thirty years, and from the skill which has thus been acquired, they are produced more economically and of better quality than they could be without such experience. The *stock* for soups is made by boiling down beef, and evaporating, until on cooking it becomes almost of the consistency of india-rubber. Large cakes of this *stock* are to be seen piled on shelves, ready for use, and the great number of these cakes is an interesting indication of the extent to which this branch of the business is carried on.

The same person who has so long conducted the manufacture of soups, has also for the same length of time *tried* the tins of preserved meat, etc., by tapping them with a hammer. He knows by the sound if the hermetical sealing is perfect, and so if the tin will keep. An inexperienced ear would detect no difference, but he detects a failure at once, and it is very seldom that he makes a mistake. It is interesting to see him at work. He goes on with his work very rapidly, and passes many tins through his hands in a

few minutes. A tin in which there is the smallest chink or pore admitting air will soon go wrong, putrefaction more or less rapidly taking place, and the top of the tin bulging up through the development of gases in the interior. The dealers in Australian and New Zealand meat have learned to reject all tins which show any bulging on the top, and in regard to all tins of preserved provisions there is no surer mark of the badness of the contents, whilst perfect flatness of the top of the tin may almost be accepted as sufficient evidence that all is right.

Potted meats of various kinds are preserved in small tins, containing a quarter of a pound or half a pound, the price of the former being about 10*d.*, and of the latter 1*s.* 6*d.* We can vouch for the excellence of some of these potted meats, and have no reason to doubt that they are all very good. They may be kept for many years without deterioration of quality. Spread on biscuit they make a pleasant luncheon, and are particularly convenient for tourists and sportsmen, as each tin can be readily opened with a penknife, so that with a little biscuit or bread and a flask of wine an agreeable repast may be enjoyed, the whole of which may, without inconvenience be carried for hours beforehand in the pocket.

Amongst the articles produced in these works sausages deserve to be mentioned, of which various kinds are preserved in tins, and so well that they undergo no sensible change for years. We are informed that the demand for these preserved sausages has steadily and rapidly increased since they first began to be offered for sale.

JOHN MONTGOMERY.

[TO BE CONTINUED.]

FLOUR kept in barrels, says M. von Poleck, gets a musty, woody taste and odour. This is apparently due to the conversion of the gluten into some soluble modification which makes the flour worse for the preparation of dough. On the other hand, flour kept in sacks shows little or none of these transformations. Thus, of five samples, the following was the result on examination:—

	Gluten.	Soluble Albuminous Matter.
1. Kept in barrels	8·37 per cent.	.. 2·14 per cent.
2. ,, ,, ...	7·40 ,,	.. 6.9 ,,
3. ,, ,, ...	7·23 ,,	.. 4·44 ,,
4. ,, ,, ...	6·54 ,,	.. 6·46 ,,
5. Kept in sacks	11·06 ,,	.. 1·44 ,,

M. von Poleck believes that this transformation of the gluten in casks is caused by the impossibility of exchange of temperature of flour in the casks, and the facility for such exchange in the sacks. It is moreover known that the souring of a quantity of flour is more perceptible in the interior than towards the outside, which seems to point to the same cause.

PILCHARD FISHING IN CORNWALL.

I WISH to say a little about the Pilchard Fishery, for which St. Ives, in Cornwall, is famous. About September the boats are all prepared to go out for several weeks on their important work. There are two sorts of fishermen who catch the pilchards—one called the drivers, who go out at night in the driving boats, the others who go out in the day. It is a very pretty sight to see the boats on the "deep blue sea," each with its light or lights—sometimes about a dozen, at other times perhaps two dozen boats, all lighted up. The way in which the fishermen are signalled to, when pilchards are seen, is rather amusing. A man or a boy goes on Minster Hill or "The Malakoff," and blows through a horn or trumpet in which direction the pilchards are seen, somewhat after the following fashion:—"Hev her 'pon [for heave her upon] Oliver," or "Hev her 'pon Minster," or "'pon Pen Mears," or "'pon Fore Sand." Acting upon this information, the fishermen shoot a "Seine" or large net out of the boat, to surround the fish, though sometimes it happens that the net is so full that they cannot drag it into the boat, and thus all their trouble is lost. After the fish are brought on shore they are taken away in carts to places in the town called cellars, where numbers of men, women, and children are waiting to salt them. This is done by putting alternate layers of salt, until there is a high pile of them, built up almost like a wall. I have been told that if one of the fish has accidentally escaped salting, although closely packed between others that are properly cured, it will go bad, and has to be thrown away. Numbers of children are employed to help in this part of the process, which is called "bulking", at threepence an hour; they work very hard, but willingly, as it is the time of all others in the year when the inhabitants who are engaged in fishing depend on making a good deal of money to buy themselves warm clothes, and to get comforts for the coming winter.

The next part of the work consists in packing these pilchards closely in hogsheads, and putting a large piece of wood on the top, and a very large heavy stone on the top of that, to press them down as tightly as possible and extract the oil from them.

This is repeated until the hogshead is quite full, and packed as closely as possible. The oil thus extracted is caught and sold for common purposes; and a good deal of money is made in this way. The pilchards, after the oil is pressed out of them, are called "Firmaids," or "Fairmaids." The hogsheads are now very closely fastened down, and sent off in boats to the Mediterranean, where they are sold to the Italians and others in Italy for consumption in Lent. Last year was the best pilchard season known for twenty years, but the people engaged in the fishing lost by it, for when pilchards were much scarcer, they sold for 4*l.* or 4*l.* 10*s.* a hogshead, and last year they only fetched 25*s.* or 30*s.*

I must now say a little about the fish themselves, which are about the size of a herring, or rather smaller, and not quite so green in colour. They are cooked in various ways. When fresh they are fried, or they may be split open, a little pepper and salt rubbed in the inside, and then broiled on a gridiron. When salted for winter keeping, they should be boiled for about five minutes, having been previously soaked in cold water over night to help get the salt out of them; some people, however, prefer to wash them without soaking them at all, and then to boil them. They may be eaten with bread only, but are much nicer with potatoes, either boiled or fried. Many poor people, who live near the quay, consume them at nearly every meal; but this diet is apt to make the blood poor, and produce boils and humours, though it does no harm if taken only once or twice a week. When pilchards are fresh broiled they have a very disagreeable smell, as also when they are salted and boiled, but their taste is very good. The last way of cooking pilchards is to split them open, well wash them, cut off their tails, fins, and scales, then rub their insides with pepper, salt, cayenne pepper, and spice, all mixed together. They are then put in a jar, with a layer of pepper, salt, cayenne pepper, spice, and bay-leaves, then another layer of pilchards, similarly prepared, until the jar is full; they are then covered with vinegar, tied over, and put into a cool oven, where they are left for several hours, when they are taken out and put aside to get cold. After this they may be eaten for breakfast or any other meal with bread, and are very good. Prepared in this way they are called "Marinaded" Pilchards, and will keep for several weeks.

A. G.

RUSSIAN FOOD AND RUSSIAN PRICES.

We are sure none of the readers of the *Food Journal* will consider it an unprofitable waste of time to contrast the retail prices of food in other countries with what they are in our own. We propose in the present article briefly to glance at the diet in Russia, with reference to its prices, so as to enable the reader to know how he would fare were he turned loose to forage for himself in a truly Russian town—not St. Petersburgh, for it is a cosmopolitan city, where every man may have his wants supplied after the fashion of his own (although the prices may be different)—but say Moscow, which is at once a great city and yet a thoroughly national Russian town.

Let us enter a restaurant and see what we can have for dinner. Shall it be a cheap one or a dear one? for there, as here, you will find establishments suited to every purse. Here is the café restaurant Anastasiadi, at the Pont des Marechaux, where you may get a sufficient dinner for a shilling or eighteenpence; and there are the more expensive establishments of M. Tiossoff, Place du Théâtre, and of M. Grurine, *vis-à-vis* Nôtre Dame Iwerskaia, where more dishes are to be had and higher prices paid. We have the *cartes* of all three before us, which we shall use for the purposes of comparison. Let us begin by entering the cheaper one. We first observe that the tables which are used by the guests are arranged as in the eating-houses in other countries, and, as in cheap restaurants in other countries, too, we notice that the tablecloths might be cleaner. In the other two restaurants above-mentioned we should find that they were cleaner. We call for the *carte*. It is well printed on a sheet of good glazed paper of a brownish colour, and folio dimensions. It has four columns, the first and third being in Russian, the second and fourth a translation of the other two into French, and the price of each article per portion is printed opposite it. The *cartes* of the other restaurants are printed in little thin quarto pamphlets, of the size and not unlike in style and printing to the catalogues of pictures in the Royal Academy. As in the other, there is a French translation opposite the Russian. The prices are given as in it, with this difference, that there is a price given for one portion, a price for half a portion, and a price for a portion and a half; the explanation of this being that the portions or helpings are much

larger than those given in this country. For example, a portion of Schi (the favourite cabbage or sourkrout soup of the Russians) would be amply sufficient to dine a hungry man. It is not only that there is half a tureenful of cabbage soup put before you, but there are in it solid masses which you must either leave only partially consumed, or have your appetite destroyed for the rest of the dinner. To meet a similar difficulty, that is, to enable the consumer to partake of more dishes than he could overtake if he finished all his *plats*, and yet not to send away the half unconsumed, it has for long been the practice in France for two friends dining together to order only one portion of each viand, and to divide it between them—an arrangement perfectly recognised by the restaurants and their attendants, who supply the necessary change of plates as a matter of course. In France, however, it requires two to carry out this system; half portions have not been introduced there. In Russia, on the contrary, a single man can have his half portion, although it is only sooth to say that the Russian half portion is as big as the French whole portion. But not only is this consideration for the single man shown in Russia, but it is carried out so as to suit parties of several. You may have half a portion or a whole portion, or a portion and a half, and a slight alteration on the rate charged is made on each, the smallest portion being proportionally highest. Thus, for example, for half a portion of fresh caviare M. Tiossoff charges about 1*s.* 3*d.*; for a whole portion he charges 2*s.* 2*d.*; and for a portion and a half, about 3*s.* 10*d.* But M. Anastasiadé has no half portions, or, perhaps, we ought rather to say, has nothing but half ones, his whole representing the half one of the others, both in quantity and price. To proceed with the dinner, let us now see what soup we can have. At the head stands the favourite Schi in two forms—"soupe aux choux digris," or sourkrout soup, at about 5*d.* for a half portion, and "soupe aux choux frais," or fresh cabbage soup, at 6½*d.*; then a kind of soup called Borsch, under the designation of Beet soup (soupe aux betteraves) for 5*d.*; the Bouillon soup and chicken soup, 7*d.*; a fish soup made from divers fishes, 10*d.*; and two Russian soups, called Batvinia and Okrochka, 10*d.* and 8*d.* respectively (all the above being half portions). This is in the cheap shop. In the dearer shop the price for a full portion is 2*s.* 3*d.*, and 1*s.* 4*d.* for a half one. The Batvinia is a kind of fish soup, and you can have it of all kinds—à l'esturgeon salé, à l'esturgeon frais, à la Belonga salé, à la Belonga frais (the Belonga is the large sturgeon—*Accipenser huso*); or you may have the flavours mixed—à la Belonga et à l'esturgeon, or the Batvinia may

be au Balreke, or à la Belaribitza, or of shrimps' tails, or fresh cucumbers. But we are not looking into receipts now; we are only seeking to know what, in a general way, can be had to eat, and at what prices. There is also Potage au Sterlet, 6*s.*; and au poisson salé, au poisson frais, at 3*s.*, half the price. Soupe aux Champignons is another national dish which might with advantage be introduced here.

Passing next to fish itself, of course all those above mentioned may be had *au naturel*, or cooked in various ways. Of these the sardine seems the cheapest—too cheap, perhaps, for the better houses, for it does not appear in their lists; but the cheaper houses have it. On the other hand, the dearest fishes—sterlet, sturgeon, and belonga, or bielonga, do not appear in the list. The highest price for any viand is about 10*d.*, while the confrères go as high as 9*s.*; and what do our readers suppose is the highest? Not the sterlet, nor anything that would strike us as special delicacies. The highest is the eel, 9*s.*, a *hors d'œuvre* preserved in boxes, then truffles, 7*s.* 6*d.* Poularde à la provençale, and à la marengo, *sur commande*, are also 7*s.* 6*d.*; then comes sterlet, and so on. But to proceed with our fish—salmon is 3*s.* per portion; a mayonnaise of sturgeon, the same price; lobster salad, 4*s.* 6*d.*; Flensbourg oysters are only 8*d.* the portion, while shrimps, à la Bordelaise, are 3*s.*; and even prawns from Moscow are 1*s.* 6*d.*; herrings are 1*s.* 6*d.*; bream, 1*s.* 2*d.*; and sardines, 6*d.* These prices give us some indication of the relative abundance of the respective animals. Besides the fishes above mentioned, other kinds, bearing the names of Ocetrina, Sandac (an excellent species of Corregonces), Soudac (a poor and rather watery fish), Belaribitza, Navagua carassin Rastejais, Salianka, all rather high in price.

Let us now turn to our *pièces de résistance*, which, somewhat strangely, in all the bills of fare make their appearance under the head of "sauce." Among a crowd of *plats* which we would call *entremets*, or side dishes, stands beef—*i.e.*, beef without any honourable distinction, but pure and simple beef, a portion or plate of which costs nearly 1*s.* 6*d.*; roast beef, about 2*s.* 4*d.*; boiled meat, 1*s.* 1*d.*; beefsteaks, à la Russe and à l'Anglaise, each 2*s.* 4*d.*; and de Hambourg, 3*s.* Cutlets of all kinds, filets santé, filet sauce tomate, fowls, kidneys, tongue and ham, running from 2*s.* 6*d.* to 3*s.* the full portion. There are a number of dishes coming under this head, which we might cite as national or prepared from special Russian recipes, such as Viande à la Polonaise, Canard à Mousscron, Pêle mêle, 30 pieces (doubtless a synonyme for a Vol au Veut); Cochon de lait au raifort, Okrochka de Veau, Okrochka au gibier,

Colelette pojarsky à la poularde, etc. Then we have a separate section in the bill of fare—"On Ajoute separement aux portions"—Champignons, 6*d.*; Brussel sprouts, 6*d.*; green peas, 7½*d.*; truffes à la Française, 2*s.*; while truffes à la Polonaise are only 3*d.*, the difference being due probably to the carriage; sauce tartare, 1*s.* 6*d.*; and the luxurious fellow who wants the use of the cruet stand, for so we interpret the item "Soyas divers," must pay 3*d.* for it, and even if he only wants mustard to his beef it will cost him 3*d.*; while cheek by jowl with it stand fresh eggs at the price of 1½*d.* each.

The reader must not suppose, however, that for the above prices he will get the vegetables mentioned put upon the table. What is meant is a helping added to the portion. If vegetables are taken as a portion by themselves they cost a good deal more. Thus asparagus costs 3*s.*; cauliflower and Brussel sprouts, 2*s.* 6*d.*; artichokes farcie, 3*s.*; artichokes aux Champignons, 2*s.* 6*d.*; green peas, 2*s.* 4*d.*; Champignons, 2*s.* 6*d.*; and truffes à la serviette, 7*s.* 6*d.*

Roasts come by themselves, and include what we might call the minor roasts or relevés, such as veal, turkey, fowl, chicken, woodcock, snipe, goose, teal, duck, capercaillie, partridge, quail, sucking pig, etc., none of them less than 1*s.* 6*d.*, most of them about 2*s.* 6*d.* the portion, and a few, such as the woodcock, 4*s.* 6*d.* The capercaillie is the same price as a duck, the whole duck and a whole capercaillie costing each 2*s.* 9*d.*

The dessert contains fewer novelties than the preceding part of the dinner, but the prices seem a good deal higher in proportion. Thus a "portion" of a cabinet pudding cost 3*s.* 10*d.*; a Soufflé à la Vanille (*sur commande*, to be sure), is 4*s.* 6*d.*; a charlotte aux pommes, 2*s.* 3*d.*; an omelette au confitures, 1*s.* 10*d.*; creams, 1*s.* 6*d.*; and ices, 1*s.* to 1*s.* 6*d.* The macaroons are 1½*d.* or 2*d.* a piece, and tartlets, 3*d.* The national part of the dessert contains sweets from Kieff, 1*s.* 6*d.*; dried sweets from the same place, 1*s.* 9*d.*; sweets from Moscow, 1*s.*; and something which we probably know but do not recognise under the name of Gruan de Gourieff aux fruits de France, 4*s.* 6*d.*

Among the cheeses, the only novelty that strikes us is the Fromage de Strakino; although perhaps the heedless reader might fail to recognise Chester or Rochfort under the travestie of Fromage de Schester or de Rokfor.

On the whole the reader will see that he will be very well fed at Moscow, but that it will require considerable tact to secure variety without waste of victuals or money.

A. Murray.

FOOD RESOURCES OF THE UPPER YANG-TSZE.

Part III.

The following is a carefully compiled table showing the rise and fall in the level of the Yang-tsze Kiang, at Hankow, during the year 1866:—

	Rise.		Fall.
January	Mean level.		—
February	2 ft. 7 in.		—
March	1 „ 5½ „		—
April	22 „ 2 „		—
May	9 „ 10½ „		—
June	3 „ 3 „		—
July	8 „ 10½ „		—
August (1st half)	1 „ 10½ „	(2nd half)	4 ft. 3 in.
September	—		3 „ 4 „
October	—		3 „ 1 „
November	—		20 „ 5 „
December	—		19 „ —
	50 1		50 1

From the fact that the river is usually at its highest in August, continuing pretty full till November, and reaching its mean level in January, it will be seen that, taken in connection with the current and the rapids, the difficulties offered to steam navigation above I-chang are considerable. Still, judging from what has been done in other parts of the world under similar circumstances, it may not be unreasonable to suggest that the employment of short, strong, flat-bottomed, full-powered steamers, constructed with unconnected wheels and separate engines, or provided with twin screws, would effect a cheap and easy triumph over the rapids, and reap a golden harvest as tow boats for their proprietors. The reader will scarcely imagine, it is to be hoped, that the whole 120 miles indicated comprises one uninterrupted rapid, tearing headlong through a rugged gorge without lucid intervals, or that it is devoid of charming glimpses of the paddy fields and country beyond. On the contrary, there are many comparatively placid reaches between the defiles where the river, swelling out to somewhat of its former width, loses its impetuosity for a time, and enables the traveller to enjoy the view of the wild crags which he has safely passed or is approaching without the anxiety inseparable from immediate proximity. On both sides occur vast swamps, now heavy with grain, the more distant rising tier above tier in terraces, until the highest rice fields seem to touch the circling rocks behind. Although

the current in the centre is considerable even in such comparatively quiet waters, the junk progresses rapidly. Facing the bow and handling eight oars on each side, the crew stand to their work, and, under the vocal stimulus of the musical clown already mentioned, urge the clumsy vessel to the next rapid. Where the wall of rock rises up perpendicularly from the water and continues so for any considerable distance in any of the ravines, there is usually no towing path, but light iron chains are fastened longitudinally, to which the boatmen cling, and thus pull the junk along. As might be anticipated the depth of the river is great, averaging about sixteen fathoms between the Lukan and Mitan gorges and rapids, where its breadth is diminished to 150 yards, and is hemmed in by precipitous crags rearing their summits 2,500 feet.

About forty miles from I-chang, near the little town of Kwei (fragrance), are coal mines, worked on the gallery principle by openings driven horizontally into the mountain sides. The coal, so far as it has been exposed by the primitive methods employed, cannot as yet be pronounced good, and it is quarried rather in the form of gum or dross than in lumps; it is further purposely reduced to powder, mixed with water and a little clay, and sent away in bricks resembling our patent fuel. Doubtless were the various geological strata scientifically examined, coal of good quality might be found (as it is well known that surface deposits are generally inferior to those at greater depth), loaded in strong short barges, and shot down to I-chang by the strength of the current in sufficient quantity to supply both tug and ocean steamers resorting to that port, and for transmission to Hankow, Shanghai, and other treaty depôts. Primitive as the Chinese may be in their mining operations, they carefully utilise every means at their command, and make economy of material a prominent feature. Accordingly, the system of employing ponderous bamboo hawsers stretched from the gallery orifice far up the mountain side to the loading jetty on the river's brink, for the conveyance of the coal by gravity, has been in use for centuries—an economical and simple plan only now beginning to be appreciated and adopted in some mining districts at home. From specimens of the coal and contiguous strata which have been subjected to examination at the Museum of Practical Geology, Jermyn Street, it has been pronounced that the geological formation of this district is identical with that of our better known true coal measures. Various travellers also agree that where coal prevails in the provinces of Hoopeh or Sz'chuan the surface rock is a sort of grey sandstone, and that where these strata are near each other the exposed surface of the sandstone acquires a dark glossy

polish, with a greasy aspect, as if it had been in contact with plumbago.*

Presently the tourist enters the great gorge of Kwan-du-kow (perturbed torrent), twenty miles in length, in the middle of which is the boundary line which separates Hoopeh from Sz'chuan. Sailing into this gloomy chasm he seems to realise all the creeping horror related of those wretched political prisoners in Venice, who, when conducted for sentence across the Porte dei Sospir, or "Bridge of Sighs," were confronted with the awful words, "Relinquish hope, O ye who enter here;" the riven masses of rock, the blanched and stunted herbage, the hideously gnarled trees, the hollow sepulchral moan of the gorge-tortured wind, and the dim uncertain light, unite to produce a feeling of weird dread and shrinking of spirit impossible to be described. Reluctant as he may be to glide between these frowning portals, what would be his sensations here during a tornado, when—

> "The pine and oak's huge sinewy roots uptorn,
> And from their beds the dusky sands, upborne
> On the rude whirlings of the billowy sweep,
> Imbrown the surface of the boiling deep?"

Clearing this dismal but stupendous cleft, he feels, even before he has reached the little frontier town of Wu-shan, that he has indeed entered a land theoretically flowing with milk and honey, and gorgeous with scented flowers—a sensation confirmed at Quai-chow. On every side the country seems a cluster of prolific farms and gardens, the buildings and sheds corpulent with rich produce. Oils, peas, beans, millet, barley, bearded wheat, melons, and other vegetables, grapes, and other fruits, besides indigo, silk, and tea, abound. But, alas! that there should be a prickle to every rose; this fair province cultivates, prepares, and distributes probably more opium than all the foreigners engaged in the foul traffic put together.

WILLIAM COCHRAN.

[TO BE CONTINUED.]

* Although the science of geology and the art of mining are scarcely within the province of the *Food Journal*, the courteous reader will surely pardon the above remarks, and some which follow, when he reflects how dependent the fertility o a country is upon the nature of the rocks which underlie or are associated with its soil, how intimately its food resources and its mineral wealth are blended. Even were the known edible products of China less numerous than they are, her enormous coal area of 419,000 square miles (more than twenty times greater than that of all Europe) must alone be a sufficient plea for the seemingly inappropriate introduction of the subject.

MARKETS OF THE MONTH.

SINCE writing my last report the price of bread has fallen one farthing in the quartern loaf. At the London Corn Exchange last week "transactions in all descriptions were restricted, and prices in many instances favoured purchasers." Reports from the agricultural districts mention favourable prospects for the harvest of 1872. The lambing season has been unusally successful, though, from the less number of ewes in the country, even under these favourable circumstances, there is a deficiency in the aggregate number of lambs when compared with the produce of 1869 and 1870. Consequently we cannot marvel that lamb is very dear—1*s.* 3*d.* per lb. by the carcase in the Metropolitan Meat Market;* neither is it wonderful that mutton should maintain its monstrous price under such circumstances—hind-quarters of prime quality are worth 11*d.* per. lb. Many breeders, scared by disease, drought, and a combination of untoward circumstances, have given up breeding, trusting to a supply of sheep being forthcoming in the markets to turn their turnips into manure. The result is that few farmers have kept any stock for breeding purposes, and there are not enough sheep sent to market to meet the supply when the season is favourable to the growth of root crops; consequently, now that every one has plenty of food, half-grown, half-fed sheep are scarce, and, when offered for sale, are eagerly competed for by farmers, bidding against one another, so that they realise fancy prices. There is plenty of food in the country, and not half enough sheep to eat it, in consequence of our having ceased to breed our own stock; and the expense and risk of importing live sheep from abroad have hitherto impeded the application of this remedy. Many farmers during the past season have been compelled to plough in their turnips and greenstuffs, as sheep were so expensive that to purchase stock to eat the crops would only have entailed further loss. Pork is slightly dearer, and beef remains much at the same price as last month. Butter, in a few weeks, will be cheaper; it is making now from 1*s.* 2*d.* to 1*s.* 6*d.* per lb., according to quality. Eggs are cheap still. The foot and mouth disease is very prevalent all over the country; it is a question which the *Food Journal* would do the public a favour by discussing, whether the milk of cows only slightly affected is or is not unwholesome? for it is to be feared that many of the cows which supply our dairies with milk are afflicted, only slightly per-

* Since writing the above, lamb has become cheaper.

haps, with the disease. The fish market teems with a varied assortment of. delicious food; the mackerel season is coming on, they are cheap even now; salmon is making 1*s.* 8*d.* per lb.; lobsters, however, are still enormously dear. Shad have just entered an appearance, and very delicious they are broiled and eaten with caper sauce, though from their rich oily nature they are hardly fare for invalids. Other fish in season are trout, turbot, halibut, John Dory, soles, whitings, haddocks, eels, brill, crayfish, crabs, shrimps, oysters, prawns, gurnets, red mullets, skate, and many other kinds. Broccoli is getting over, summer cauliflower will soon be in; in the interval, in consequence of the mild weather, asparagus is abundant—as low as from 3*s.* 6*d.* to 5*s.* 6*d.* per hundred; but if cold weather should set in the price will rise considerably. Green gooseberries will soon be in, and new potatoes may shortly be expected from Cornwall; those forced in frames are making 1*s.* 6*d.* per lb.; Bermuda new round, 2*d.* per lb.; green peas in 1 lb. bags may be purchased for 12*s.* per dozen, and flats may be expected in a few weeks of peas from France and Cornwall. French beans, 2*s.* 6*d.* per hundred; forced strawberries, 16*s.* to 18*s.* per lb.; pines, 10*s.* 6*d.* to 11*s.*; grapes, 20*s.* to 24*s.* Cucumbers are remarkably cheap—1*s.* to 1*s.* 6*d.* each; perhaps people have at last learnt to esteem them the most horribly unwholesome vegetable which it is possible to consume; if so, I think people are right. French lettuce, 1*s.* 2*d.*; French endive, 1*s.* 9*d.*; French carrots, 8*s.* to 10*s.*; French coss lettuce, 4*s.* per dozen. Champignons and petits-pois in tins, and truffes de Périgord in bottles, have become much cheaper lately. Oranges are slightly dearer. Plovers' eggs are in season; at first they fetched 6*s.* per dozen, prices now are from 4*s.* to 5*s.* Poultry is scarce and dear always at this time of the year. Guinea fowls are getting over, but there are some few still in market at 5*s.* each. Pigeons make from 1*s.* to 1*s.* 2*d.*; ducklings from 4*s.* 6*d.* to 5*s.*; English chickens, 4*s.* 6*d.*, Irish, 3*s.* 9*d.* to 4*s.*; fowls, English, 4*s.* to 5*s.* 6*d.*, Irish, 3*s.* to 3*s.* 6*d.*; goslings, 9*s.* to 10*s.*; leverets, 4*s.* 6*d.* to 7*s.* 6*d.*; pea fowl, which should only be eaten at this season, from 10*s.* 6*d.* to 14*s.* each; ruffs and reeves, 1*s.* 3*d.* to 1*s.* 9*d.*; quails, 1*s.* 9*d.* The coffee market is very dull, buyers are scarce and transactions limited, in view of the approaching reduction of the duty. The price of sugar has, during the past month, advanced about 1*s.* per cwt. Bacon, too, has become slightly dearer, but hams show little change. Salt butters are at a discount, and holders are anxious to sell at almost any price.

April 15th, 1872. P. L. H.

CORRESPONDENCE.

NUTRITION.

To the Editor of the "Food Journal."

SIR,—Will you kindly allow me to answer Mr. E. Fournier's letter which appeared in your March number? I am sorry that the commas and brackets were somewhat out of order in that gentleman's article on "Nutrition" in your November number, for I, a foreigner, might have seized better what he meant to say. However, one of his corrections, though materially changing the significance of the sentence, does not get rid of the difficulty. I here allude to "instead of 'saliva' read 'it' on page 440." "It" refers, then, to a new unknown principle "in" diastase, which possesses an extraordinary power of reducing starch into grape sugar.

The matter would stand thus: Saliva, containing $\frac{1}{200}$ of diastase, converts (not any quantity, as Mr. Fournier originally had it), but four parts of starch; diastase transforms 2,000 parts. New unknown principle—unlimited quantities!

Not having the slightest notion of this new body, I read the sentence as it stood, and Mr. Fournier must acknowledge that I, not suspecting "it" instead of "saliva," had reason for drawing attention to his statement. But what reasons has Mr. Fournier to think that a new quintescence exists in diastase? One might expect to find similar new bodies in pepsine, quinine, codëine, etc.; but on what basis? Theory, analogy, and deduction, if founded upon scientific facts, may be useful and acceptable, but without such a basis they are useless, nay dangerous; and until Mr. Fournier brings forward better evidence, microscopical or other, I must be excused for adhering to Mialhe and his diastase.

With the same desire to discover new bodies, Mr. Fournier treats the pancreatic juice. Can he show me the reason or the necessity for such a new digestive principle for fats? That a dog fed on pork does not yield lard; that a ligature round the pancreatic duct prevents digestion of fat (naturally so, for in that case you prevent the alkalies from assisting); that glands in the duodenum exist which have some physiological action; that, as Professor Foster has it, magnesia saturates this active principle of the pancreatic juice (so does any acid)—all these assertions do not prove that such an agent does exist. The secretions of glands in the duodenum can have no effect on fats, or their digestion would not be prevented by a ligature round the pancreatic duct; moreover as these glands resemble certain cells and glands in the mouth, it seems natural that they rather should assist diastase; for it is in the duodenum that this principle, having lost its reductive power during its passage through the stomach in consequence of the acid reaction of its contents (these acids being neutralised by the alkalies of the bile), reacquires its full energy for the further transformation of starchy matter into grape sugar. If magnesia saturates, removes, and enters into combination with this new principle, it cannot be difficult to separate it to a greater extent. Has it been isolated to any extent at all? Professor Foster seems to say as much. But as long as chemists cannot show the suspected body in a certain form, like pepsine and diastase—until they prove its special action, how it behaves with reagents, etc.—I think it will be wise to keep to Mialhe and his alkalies.

Fats, treated with alkalies or ammonia, produce as perfect an emulsion as they do with the pancreatic juice, traversing the intestinal tissue with the same ease.

When I asserted that the physiology of the digestive process was sufficiently understood, I, of course, meant that we can account for the transformation of starch, albumen, and fats into glycose, albuminose, and emulsions; and we know by what agents these results are brought about in order to prepare them for instant absorption and assimilation. I did not allude to their ulterior combustion after having entered the current of circulation, yielding as they do blood, tissue, bone, and, finally, protoplasm, which phenomena, of course, are still wrapped in mystery and darkness.

Mr. Fournier wishes to substantiate his case of a special ferment for fat by using the broken sword of a stout and unvanquished gladiator—I mean the "irrepressible" *(sic)* M. Mialhe—citing a memoir presented to the French Academy, not on the 3rd, but on the 13th of August, 1846, in which he (Mialhe) expresses his opinion that a ferment for fat might exist. Mr. Fournier has not attentively read Mialhe's "Chimie Appliquée à la Physiologie;" at any rate, he has entirely overlooked the foot-notes, and cannot possibly have reached page 185. The following are the passages I wish to point out:—Page 96, "I have since abandoned my opinion in regard to fats." (This foot-note refers to the transactions of the Academy on August 13th, 1846.) Page 134, "I have advisedly reproduced my former ideas about the digestion of fats, at the moment of publishing these experiments (*ce travail*). We shall soon see that at the present date my convictions have been entirely modified in this respect." This foot-note again refers to the *séance* of August 13th, 1846, and, curiously enough, on this page may be read Mr Fournier's citation in proof of Mialhe's opinion in favour of the third special ferment. Page 185, "My experiments about diastase and pepsine had induced me to admit the existence of a digestive agent for fatty matter analogous to these two ferments, when new facts arose which forced me, reluctantly, to return to the old theory of emulsifying (*émulsionnement*) by alkalies. At exactly the same period M. Bernard announced his discovery of a special ferment in the pancreatic juice." A quarter of a century has elapsed since Mialhe made these remarks. How far are we advanced now, despite M. Bernard and Mr. Fournier? Certainly Mialhe remains "irrepressible," for the truth is on his side, and if one day Mr. Fournier finds his efforts crowned with success by the discovery of new ferments in the pancreas and in diastase, which may be possible, though not probable, his name will be handed down to posterity, and he will become "irrepressible," like Mialhe, while the latter would be somewhat eclipsed.

I am, Sir, respectfully yours,

16, Tichborne Street. G. Mellin.

NEW ZEALAND BUTTER AND BEEF.

To the Editor of the "Food Journal."

Sir,—Last year I wrote to you on the price of butter in this district. Since the date of that letter butter has never exceeded 7*d.* per lb., I believe, even during the winter months—for a long time it has been worth 4*d.* to 4½*d.* per lb. I can only express surprise that steps are not taken to place this article of food on the English market in good condition.

I notice that tierced beef is worth in London from 112*s.* to 130*s.* per tierce. Here prime paddock-fed beef has ruled for many months from 15*s.* to 22*s.* 6*d.* per 100 lbs., yet, as far as I am aware, notwithstanding our favourable climate for that business, no one cures either for the English or Honolulu market.

Thomas H. Potts.

Ohinitahi, Canterbury, Feb. 2, 1872.

NOTES OF THE MONTH.

A WHOLE FAMILY in Portsmouth, U.S., has been poisoned by using water drawn through galvanized iron pipes. On examination the water was found to contain six grains of oxide of zinc in each gallon. The poisoning of individuals and families through this agency is much more common than is usually supposed, and hundreds are continually suffering to a greater or less extent from water contaminated by the metal of the pipes through which it passes. While on the subject of impure water, we may notice that American *go-ahead-ism* can even be apparent in this matter. What would our readers think if a British pump yielded an amount of organic matter like that represented by the analysis of a well in Massachussetts, which, according to the *Boston Journal of Chemistry*, gave the following appetizing result?—

Organic matter	10,783	grains per gallon.
Inorganic „	62,713	„
	73,496	„

ACCORDING to the Board of Trade returns for the past three months, the coffee trade exhibited a decrease of 700 tons on the deliveries for home consumption, as compared with the corresponding period of last year. Does this evince a still further increase in the popular taste in favour of tea, in spite of the many dreadful revelations of which Maloo mixture is the type? The foregoing reminds us that, according to Australian advices, our friends at the Antipodes are enjoying the same privilege of drinking nastiness with which we have frequently been favoured. Several cargoes of sea-damaged tea have recently arrived in Melbourne from New Zealand, and although the Medical Officer of Health considered them totally unfit for food, he was powerless to take any action in the matter until the tea found its way into the hands of the retailers. It is evident that the state of legislation on food adulteration is no better in Australia than at home, as for any one to find the trash after it was distributed to the shopkeepers, disguised by judicious mixing, would be a realization of the well-known difficult task of finding a needle in a bundle of hay.

MEAT PRESERVATION.—Mr. Charles Tellier, of Paris, is carrying out operations on the freezing process and by desiccation, and has published a volume with illustrations of his process, and those which have been already tried. In France the importance of some addition to the present animal food supply is greatly felt. In Paris the mean average consumption of meat is 273 grammes per individual per day, and this quantity is barely sufficient. In the west of France it is scarcely 57 grammes per head per day. In taking into account the large consumption of bread and vegetables in the provinces, there exists an enormous inequality, which tends to that advance of prices of all kinds of food which is yearly taking place. But while there is a deficiency of animal food in densely-populated countries there is a superabundance in the thinly-peopled regions.—*Journal of Applied Sciences.*

BOOK RECEIVED.

CATALOGUE OF THE ANGLO-AMERICAN ICE CREAM SODA WATER APPARATUS, published by the patentees and manufacturers, Dows, Clark & Co., 1, Chandos Street, Strand, containing upwards of 80 pages super-royal 8vo., with numerous illustrations of machinery and appliances for the preparation of aërated and cooling beverages.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

CAULIFLOWER SALAD.

Boil a cauliflower in salted water till tender, but not overdone; when cold, cut it up neatly into small sprigs. Beat up together three tablespoonfuls of oil and one tablespoonful of tarragon vinegar, with pepper and salt to taste; rub the dish very slightly with garlic, arrange the pieces of cauliflower upon it, strew over them some capers, a little tarragon, chervil, and parsley, all finely minced, and the least bit of dried thyme and marjoram powdered. Pour the oil and vinegar over it and serve.—*The Garden.*

FRIED BREAD.

Put into a common biscuit pan a heaped teaspoonful of butter, and let it melt and spread over the pan; then take enough slices of bread (stale answers as well as any) to cover the bottom of the pan, and make a mixture to dip them in by beating well two eggs, and pouring in milk enough to soak the bread, seasoning it with a little pepper and salt; make the bread quite moist, then lay it on the butter and fry brown one side, and if too soft to turn, put it into the oven to brown on the top.—*Boston Journal of Chemistry.*

PURÉE DE LEGUMES.

Boil in some stock with a bundle of sweet herbs, pepper, salt, and spices to taste, any desirable combination of such vegetables as carrots, turnips, potatoes, parsnips, leeks, onions, peas, Jerusalem artichokes, etc. When thoroughly done, pass the whole through a fine hair sieve. Mix in a saucepan a piece of butter and a little flour, then add a little of the purée, and when this is well mixed add the rest. Finish by stirring in, off the fire, a couple of yolks of eggs strained and beaten up with a little milk. Serve with or without tiny sippets fried in butter. N.B.—The above is one way of making use of the trimmings of vegetables produced by cutting them up with fancy cutters.

HAGGIS IN A PUDDING DISH.

The following mode of using the remains of roasted or boiled meat, after it has appeared upon the table first in a hot and then in a cold state, will be found economical and at the same time to afford an agreeable variety. Let the meat be minced. Either beef or mutton may be used; but care must be taken that there is a sufficient quantity of fat, and any deficiency in this respect must be made up by suet. The minced meat is to be mixed with *coarse* oatmeal, previously well browned before a clear fire, and with some chopped onions, salt, and pepper; and the whole, being put into a pudding-dish, is to be thoroughly heated in an oven, remaining there for fully half an-hour. This dish bears a considerable resemblance to Scotch haggis.

THE

FOOD JOURNAL.

WHO IS TO BLAME?

THE *Food Journal* has, for the last two years, exposed the nefarious and almost universal system of adulteration in its various aspects, bearings, and results. It has proved to demonstration—what indeed was scarcely needed—that this modern pest is no mere phantom, no chimera, no "invention of the enemy," no device of sensational writers hard put to it for a subject, but that it does exist; that its presence makes itself felt wherever men, especially Englishmen, live by bread; that it is the handmaid and attendant of disease; that it not only tends to weaken and impoverish individuals, or even families, but that it is the chief instrument in deteriorating—and that, if suffered to continue, it will eventually destroy—the finest race of men, physically speaking, on the face of the earth. It has given evidence after evidence, brought forward proof after proof, not loosely or vaguely, of its existence, but of the *modus operandi*, both of its professors and disciples, in almost every branch of retail, and in many departments of manufacturing trade, whereby articles of food and drink are affected. It has, in short, demonstrated, literally *usque ad nauseam* that, socially and morally, the huge wide-spread conspiracy against the common weal, known by the mild name of adulteration, is in reality both a crime and a vice with which few of the evils of modern times can be compared.

Seeing that this is so, knowing that the fact is so undeniable that not one rational person is found to challenge it, is it not worth while again and again to press it home to its real parents and authors, and to ask, and decide, Who is to blame? Is it the people? That can hardly be, since they are the sufferers. The masses, the middle classes, the rich, all suffer, both in purse and person, by this most gigantic of "Long Firms," from whose swindling operations no single individual can hope entirely to escape. Not one; for it is a noticeable fact, and one which, were there room for merriment, would be amusing enough, that the very

respectable British tradesman who puts money in his purse by cheating his own dearest friends is also, in his turn, the victim. A., the grocer, palms off his choice tea-sweepings and chicory on his neighbour B., the baker; but B., honest man, does as he is done by, and by no means forgets the due proportion of alum when he serves neighbour A. with the family loaves. So that, viewed rightly, the very man who gains also loses by that system of fraud, trickery, poisoning, peculation, and theft, known in these later days as adulteration. How much he gains, it is possible for him to calculate; but his loss, or losses rather, in his own impaired stamina and in the health of his family, he can never hope rightly to ascertain. It is safe, then, to assert that the people at large can scarcely be said to be blameable, seeing that, in the first place, they are the losers, and, in the second place, they are powerless in the matter. But if the blame be not chargeable on the people at large, where does it rest? The question is not hard to answer. There are but two classes, after all, in the body politic—the rulers and the ruled: those whose business it is to make (and mend) the laws, and those whose business it is to understand the laws, when made, and to obey them afterwards.

And how stands the question viewed in this, which may be called its political, light? Here again we are on safe ground and with easy travelling. Either adulteration is an offence punishable by law, or it is not. If the former, shame on those whose duty it is to see the law enforced; if the latter, still greater is the scandal and discredit that systematic fraud on a national scale, and fraught with immeasurable evils—fraud known to exist, fraud that is practised, not secretly, but openly—should, by the apathy or neglect of the legislature, still be tolerated for a single day. And in putting this double hypothesis, we are simply fixing Government —successive Governments—on either horn of the dilemma, because we know, in point of fact, that there is no law at present existing in the statute books which is sufficient to deal with this evil. Not that its necessity is not on all hands admitted; to deny that necessity were almost as great a folly as to deny the existence of the evil itself. No, it is admitted; the remedy is even talked about; but, with the exception of one or two men, none of our legislators seem to consider, judging them by their acts, that this, the paramount question (with the cognate subject of sanitary reform) of the day, is of more importance, or even of so much importance, as the obtaining a small majority on some mere paltry question of party. Mr. Muntz has thrice attempted to pass a Bill to restore honesty to retail trade, and Lord Eustace Cecil, with two

or three others, has proved himself in earnest on the subject; but what have been the results? Is anything done? There is indeed something like a promise that something shall be done some day or other, and Heaven speed the hour when that something shall be done, and grant that it may be sufficient withal. But still the reproach remains, a reproach to which the legislature is clearly liable, that during all the years that have intervened since, through the medium of a Parliamentary Commission, the startling facts were first divulged which proved that the entire system of our retail trade was based on fraudulent transactions, not one measure has been passed which should put an end to so flagrant a state of things. And here we are still—nothing done; nothing, as far as it can be seen, seriously thought of, and the evil as rampant and even more widely spread than ever. It surely needs not much discussion, or even any great effort of thought, therefore, to pronounce, with reference to one of the most terrible curses by which any nation was ever afflicted—wantonly afflicted, and by its own rulers, too—Who is to blame? Individuals weary themselves; philanthropists, of either sex, put forth their energies; authors and journalists again and again return to the charge; even our statesmen, or those of broader intellect, more generous instincts and far-reaching view, hold forth in their private capacity on the vital necessity of a change, of wholesome, stringent, and repressive measures, whereby the British tradesman shall be made, if not religious, at least more moral and honest in his dealings, by Act of Parliament; yet still our senators, in their legislative capacity, make no sign—nor will they, probably, till the people put pressure on them. But the people must first themselves appreciate, to its full extent, the gigantic evil under which they so sorely suffer; and for this purpose, as a clear-sighted peer lately observed at Liverpool in reference to general sanitary reform, they must themselves be educated; so that again we are forced to turn our eyes to Westminster, when, in the bitterness of our hearts, we seek to ascertain, and would truly reply to, the question —Who is to blame?

We have in this country all sorts of sweet and toothsome ices, but it has been reserved for an American physician to invent an ice at once nourishing and grateful to the poor sufferers from disease. Dr. Hare, of Philadelphia, makes ices from beef tea, and has found them of the greatest benefit.

PARISIAN DINNERS AND PARISIAN FASTING.

It is a standing joke that in England nothing is to be done without a dinner, and some one has said that if London were destroyed to-morrow a spot would be found amongst the ruins whereon to commemorate the event by a banquet. Whatever be the amount of truth in these jokes, the dining *manie* is at least as rampant in Paris as in London, and the *menu* receives far more attention from the host and *convives* of the former than of the latter capital. The bill of fare is deeply interesting, not only to *gourmands* and *gourmets*, but to poets, philosophers, and politicians; it is a document which takes almost equal rank with a poem, a scientific disquisition, or a *projet de loi*. A recent example of two will not be uninteresting to our readers.

M. Goudinet, the author of "Christiane," gave, a short time since, a complimentary banquet to the *artistes* who had *created* his play, as the term is in Paris, and the manager of the Comédie-Française and his son. The number of *convives* was twenty-two, and the *festin* took place at a well-known restaurant, or, in the words of a Parisian journalist, "The words and the music were by Paul Brebant, and the following is the *menu* that the company had the honour to represent." It would be absurd to translate such a document, and we therefore subjoin it in all its native purity:—

MENU.

HUITRES.
Impériales, Armoricaine.

POTAGES.
Printanier royal, Bisque.

HORS-D'ŒUVRE.
Concombre, Caviar, Saumon-fumé
Radis, Beurre, Olives.
Truite saumonée sauce vénitienne
Selle de pré-salé rôti, aux haricots verts nouveaux.
Poularde à la piémontaise.
Sorbets au kirsch.
Faisans flanqués de bartavelles et Perdreaux rouges et gris.
Truffes au vin de Champagne.
Terrines de grives aux truffes.
Salade de romaine.
Asperges, sauce hollandaise.
Pois nouveaux, bonne femme.
Ecrevisses à la Colbert.
Brioche mousseline, Bombe glacée.

DESSERT.
Fraises, Cerises, Fruits, Fleurs.

VINS.
Sauterne, Saint-Julien en carafe, Xeres, Château-Larose, Clos-Vougeot, Hermitage 1834, Saint-Péray vieux, Champagne frappé.

In compliment to the season, the table was decorated with small cherry and other trees laden with fruit.

During the long, sad days of Lent the *gourmets* are, it may be supposed, in a very miserable condition: no meat allowed; nothing but fish and water fowl, and eggs and vegetables. Poor fellows! But they manage to eat, and even to *dine*, which is a very different matter, on such scanty fare. The following is a Lenten or *maigre* dinner, arranged by a celebrated *gourmet*, whose severe conscience would not even admit water fowl:—

MENU OF A DINNER FOR TWELVE PERSONS.

POTAGE.
Julienne à l'essence de racines et aux quenelles de poisson.

RELEVÉ.
Croquettes de filets de soles à la purée de tomates.

GROSSE PIÈCE.
Turbot au gratin garni be champignons.

ENTRÉES.
Civet de lamproies, Quenelles de brochet au beurre de Montpellier.

RÔT.
Petits homards entourant un gros crabe.

ENTREMETS.
Truffes à la serviette.
Gelée de rhum aux pistaches et aux asstes confits.

EXTRA.
Petits soufflés à la fleur d'oranger pralinée.

It must be admitted that the questions of conscience and *cuisine* are here very delicately blended. The grand dish, the *pièce de résistance* (turbot *au gratin*, with mushrooms), was not a bad substitute for meat; and we have no doubt it was *à la crême*, though it is not so stated in the *menu*. The most curious item, however, is the "roast," a great crab surrounded by small lobsters: such a roast by any other name would taste as well. As to the *civet* of lampreys, it recals the festivities of our ancient kings, and of one especially to whom the love of lampreys proved fatal.

The late Sainte-Beuve was a grand amateur of delicate dinners, and a terrible sensation was caused in 1868 by a report that he had chosen Good Friday in that year for a sumptuous banquet, or rather, as the malicious reporters gave out, for a disgraceful orgie. M. Sainte-Beuve was then a member of the Senate, but he was terribly heterodox, and the dinner in question was declared to be an outrage against decency and the Church. M. Sainte-Beuve was to speak, in the Senate, on the law of the Press; and the rumours referred to having arrived at the ear of the president, M. Troplong, he feared a violent outbreak in the august assembly, and begged M. Sainte-Beuve to put him in possession of the actual facts respecting the dinner in question, in order that, if possible, he might pour oil on the troubled waters beforehand.

M. Troubat, late secretary and executor under M. Sainte-Beuve's will, has now given to the world an account of the actual circumstances of this terrible orgie, which threatened to upset the gravity

of the Senate, and served the enemies of the famous writer with fuel for a month's vengeance by way of payment for the wit and satire with which Sainte-Beuve had treated some of them from time to time.

The company at this famous dinner consisted of MM. Taine, About, Renan, Flaubert, Robin, and Prince Napoleon; and it occurred on Friday, we are told, simply from the fact that the Prince had no other day open. The *menu* was as follows:—

Tapioca Soup. Salmon Trout. Fillet of Beef, with Madeira.
Truffled Pheasant. Asparagus Points.
Salad. Buisson d'Ecrevisses. Parfait de Café.
Dessert.

The wines were Château-Margaux, Nuits, Musigny, Château-Yquem, and Champagne.

If the liquids were choice in the extreme—and all was choice in Sainte-Beuve's cellar—the dinner was certainly anything but an orgie—in fact a *gourmet* would describe the *menu* as rather shabby. But Sainte-Beuve was the last man on earth to create an orgie; he was a refined epicure. His mode of arranging his dinner parties was remarkable: when he had determined upon his guest of honour no other person was invited without his full consent, and you may be sure that the list never fell short of the number of the Graces or exceeded that of the Muses. He never took the head of his table; the dinner, as he used to say, was given at his house; "he was keeper of the *cabaret*," but the chief guest was the president.

A feature of the *recherché* dinners in Paris deserves a word: it is rare that all the *convives* are men. Thus, in the present case, one lady was included in the invitations; and as she had scruples respecting Lent, a special meagre dish was provided for her. Unfortunately her health precluded her from being present. On another occasion Madame Sass was the guest of honour at Sainte-Beuve's table. Amongst the guests named by her were Arsène Houssaye and the composer Reyer, and wit and music reigned supreme.

An epicurean dinner is the very reverse of an orgie: an unostentatious *menu*, perfect cookery and service, and the presence of three, two, or even one, intellectual woman—these are the features of the *festins* given by those who are at once men of the world and of taste There are gourmandisers in Paris as in other places, and their name is legion, as compared with the *gourmets;* but of gorgeous spreads—*festins de Balthazar*, as they are termed by the *boulevardiens*—we have nothing to say on this occasion; to speak of them, after true epicurean dinners, would be like eating roast pork and onions after truffled pheasant.

G. W. Yapp.

POPULAR FOOD ANALYSIS.

No. 15.—PRESERVED MEAT.

SINCE the establishment of the *Food Journal*, its aim has always been to support in every way the use of meat imported from foreign sources in a preserved state, and scarcely a month has elapsed without something being said upon the subject. It has therefore been thought advisable to have a critical and chemical examination from time to time of the meat sent into the market by the patentees of such new processes as may be at the moment attracting special attention. It may not be out of place to glance at the chief means by which the preservation of meat has been sought to be attained, before proceeding to notice the special process under examination.

Of the many systems already invented, and which are represented at the Patent Office by more than 2,000 specifications, there are yet, after all, only three really distinct methods of attaining the end in view. The first class of such patents may be considered as preservation *in vacuo*, the second by freezing, and the third by means of the application of some antiseptic, coupled frequently with a peculiar method of killing the animal. By the first process the meat is cooked in tins, and, the air having been expelled by some suitable method, the vessel is hermetically sealed with a drop of solder. This mode of working has been used for a considerable period, and it has, to the present time, proved the most satisfactory. As usually practised, however, it is open to two grave objections: first, that the slightest want of care in sealing causes the decomposition of the whole contents of the tin, and secondly, that however well the process may be conducted, the meat is generally found to be over-cooked, and to have a peculiar flavour and a tendency to "stringiness."

The preservation of meat by freezing has also been practised with more or less success, and was no doubt first suggested by the discovery of the bodies of animals frozen to death many years before, but still in a perfectly fresh state. Not the least notable instance of this was that of an antediluvian animal which was found embedded in ice at the mouth of the river Lena, in a state perfectly free from decomposition; and there are few of our readers who have visited the Convent of St. Bernard, but will

remember the horror of fascination with which they have beheld the terrible morgue and its frozen inmates, as they stand around in perfect preservation—

. . . . "For ages to remain,
Themselves their monument": . . . .

Many authorities have strongly supported the freezing system, and frequent efforts have been made to bring it into use. Ships have been sent to South America to bring back the carcases of oxen packed in ice, and others have been fitted with refrigerating apparatus of various kinds, to keep the air in the hold at the freezing point; but, so far as we are aware, no definite success has yet been attained in this direction. Food authorities are also divided on the advantages of the system, even supposing it could be carried out. Some declare that in the freezing and subsequent thawing, an alteration in the tissue and nature of the meat is produced. This action, they say, is both a chemical one, which alters the constitution of the substance and causes a disassociation and partial alteration of its constituents (as shown by the development of sweetness in a frozen potato, and in the remarkably injurious effect produced on wine which has been solidified by cold), and also a mechanical rending of the fibres through the formation of the ice. It has, besides, been declared that when frozen meat is thawed, it rapidly decomposes so as to be unfit for use within twenty-four hours after cooking. On the other hand all this has been denied by the upholders of the freezing system, and Captain Scoresby states—"I have eaten unsalted mutton and beef, nearly five months old, which has been constantly exposed to a temperature above the freezing point for from five to six weeks, and occasionally assailed by the septical influences of rain, fog, heat, and electricity, and has proved perfectly sweet." We have ourselves as yet formed no definite opinion on this subject, as we have never been enabled to procure a sample of meat preserved by the simple process of freezing, in anything like a proper state for general consumption. The method of preventing decay of meat by antiseptics is the most ancient of all, and from the earliest times salt and smoke have been employed for this purpose. If meat be well salted, especially while still warm, and before coagulation of the fluids takes place, there is no doubt that it can be preserved for an immense length of time. The eating of salt beef is, however, to many persons a very dangerous experiment, and even in most constitutions it requires the copious use of vegetables, in order to prevent scurvy and other disagreeable consequences. The recognised difficulties attending the use of

salted meat, have induced the employment of many antiseptics, such as bisulphite of lime, sulphurous acid, carbonic oxide, etc., for which it has been claimed that they preserved the meat without communicating any unpleasant flavour; but we have not heard that any of the systems have as yet produced practical results on any large scale. The system of combining some special method of killing the animal with subsequent action of antiseptics has also been attempted. There can be no doubt that the mode in which the life of an animal is destroyed has an important influence upon the texture and quality of the meat. It is well known that the flesh of animals hunted to death is more tender than that of those killed instantaneously, and from this has arisen the practice, formerly said to have been common in some countries, of whipping pigs until they died from the operation, and the almost parallel custom in some parts of causing the pig to run about after it has received the death wound. Some time ago a considerable amount of interest was occasioned by the bringing out of a process for killing animals in an atmosphere of carbonic oxide, and subsequent "curing" by means of sulphurous acid, charcoal and carbonic oxide; but we have not yet met with any sample of the meat in the market, and are not aware that the plan succeeded on a practical scale.

Taking the various methods as a whole, there seems to be as yet nothing better than the vacuum process, and it is to the results of our examination of a set of samples of meat preserved by a new modification of this plan to which we desire to direct attention. These specimens have been transmitted to us by Mr. Richard Jones, and were preserved under his vacuum method by Messrs. Forbes and Co., of London and Aberdeen. By Mr. Jones's process the meat is put into tins and entirely soldered up, except a small tube, which is about the size of a quill and is soldered into the top of the tin. This tube is placed in connection with a vacuum chamber, and the air exhausted. The cooking is then commenced, and, without entering into details, we have simply to say the principle involved is the production of a vacuum before beginning to cook, and the maintaining of the same during the time that the operation is in progress. The special feature claimed for the system is that "poultry, game, fish, and whole joints of beef and mutton can be as readily preserved with as without bone, so obviating the hitherto unsatisfactory appearance of preserved meat." Having thus given the *rationale* of the process, we will proceed to the results of the examination of samples.

No. 1 was a roasted sirloin of beef preserved entire. Before opening the package, the tin was observed to have the battered

appearance produced by the external pressure of the air, which is always indicative of a perfect vacuum in such tins, and without which no package of preserved meat should ever find a purchaser. On opening, the meat was found to be devoid of the usual shrivelled appearance, and, in fact, presented the characteristics of a joint of meat cooked the day before, and served cold in any ordinary household. Upon cutting into the joint there was no appearance of over-cooking and stringiness; it came off in good slices, and was even somewhat ruddy in the centre. It was remarked by our friends who were present at the trial, that the flavour was not at all like the common tinned beef. A portion from the inner part of the joint was cut off for analysis, with the following result:—

Water	69.337
*Muscular fibre, coagulated albumen, etc.	17.653
*Soluble organic salts	2.790
Fat	6.710
Mineral matter	3.510
	100.000

* Containing 3.74 nitrogen.

No. 2 was a partridge roasted whole, which presented no trace of a shrivelled or discoloured appearance, and stood carving in the ordinary way without tearing into shreds. The flavour was exceedingly fresh and agreeable; the only objection made to it by some of the party was, that it was not sufficiently "high" for their palates.

No. 3 was a section of a cod boiled in one piece. This was an exceedingly admirable specimen of food preservation. It was so firm in consistence, and so perfect in flavour, that no one would have imagined that it had not been cooked the same morning. It possessed, as one of the company remarked, that peculiar liveliness of flavour which cold fish only retains for a limited period after cooking.

It was not thought necessary to submit either the game or fish to analysis.

Looking to the results of our experiments, we cannot but think that the method of preservation in tins has at last reached perfection in this process, for the development of which we were informed that a company has recently been formed with every prospect of success. When it gets into working order, there is little doubt but that this meat will head the market until such time as some happy inventors can produce a reliable plan of importing raw meat from our colonies in a sound state.

J. Muter, Ph.D.

FOOD RESOURCES OF THE UPPER YANG-TSZE.

Part IV.—(Conclusion).

Plentiful although honey may be at Quaichow, culled from poppy flowers, it can scarcely escape some of the reproach attaching to—

> "—— Those bees of Trebizonde,
> Which from the sunniest flowers that glad
> With their pure smile the garden round,
> Draw venom forth which drives men mad."

Passing the rapids and coal mines at An-ping, and the level agricultural country about Yung-yan, the gold washings at Siau-kiang are reached; but it is found that the auriferous search is so clumsily conducted, and the yield is consequently so small, that only the poorest and otherwise disappointed coolies engage in it. The natives say that the dust is washed down from the mountains of Thibet, and as a proof that gold hunting is among the most ancient of their institutions, they point to the name of the Yang-tsze, which here takes that of Kin-cha Kiang, or "River of Gold Sand." To the casual examination a stranger is enabled to bestow, the sand exhibits a large quantity of yellow mica scales, and probably a mixture of iron pyrites; but it must be admitted that the show of gold particles is extremely minute. That the quantity of the precious metal obtained somewhere on the river is enormous may be inferred, however, from its abundance in the country, the prevalence of ornamental gilding, the vast amount of gold leaf annually burnt at rejoicings and funerals, and the unniversality of gold buttons and trinkets among all except the poorest classes.

The city of Wan is a prefecture of the second provincial grade, and is 1,100 nautical miles up the Yang-tsze. It is a thriving place, a fact which any stranger would be justified in deducing from the superior look and dress of the inhabitants, and the care displayed in the economical cultivation of every yard of ground in the neighbourhood that it is possible to irrigate. Coal is extensively worked, and tobacco, peas, beans, wheat, barley, rice, sugar-cane, the oil-nut tree, and poppy are cultivated. In its markets may be seen ginger, spices, sulphur, sulphate of copper, and cotton prints, and it forms a commercial focus for the surrounding country; whilst on the meadows by the river (here 550 yards broad and measuring from 3¼ to 9 fathoms in depth) are numerous dairies—

> "While kine to pails distended udders bring,
> And bees their honey redolent of spring."

Skipping over Shi-pow-chai, Fung-tu, and Chang-show, the last situated 677 geographical miles from Hankow, and 1,265 from Shanghai, we reach the great city of Chung-king, the second in importance in Sz'chuan. With a population of over 200,000 and a resident commercial aristocracy, it is to the west of China what Hankow is to the centre, Shanghai to the coast, and Canton to the south, exchanging constantly the various products of the empire. Strickly speaking Chung-king consists of the two fortified cities, Chung-king-foo and Li-min-foo, on the two banks of the river Ho-tow, at its confluence with the Yang-tsze. Among its inhabitants are about three thousand Christian, and five hundred Mussulman families. At this point both rivers are said to be very deep, and the larger measures eight hundred yards in width, whilst the smaller is one hundred and thirty, entering the Tang-tsze with a strong current. Numerous ridges, composed of a similar grey sandstone to that already mentioned, intersect the country with the additional advantage that owing to the upheaval of the strata, both lime and coal are found cropping out among the hills together; and as iron-stone is also obtained in the neighbourhood there is no reason why Chung-king should not, by-and-bye, become the seat of extensive iron-works. In the matter of exports and imports the following list exhibits great variety :—

Exports.	*Imports.*	
Beeswax and white insect wax.	Broadcloth, called	I-cha-ai.
Chuan-pin-ma (a drug).	Common cloth, ,,	Ma-kien.
Copper (from Yunan).	Dutch Camlets, ,,	Yu-man.
Coal.	English ,, ,,	Yu-sho.
Gold.	Fine cloth, ,,	Ki-tow.
Hung-qua-shoe (flowers for dyeing.)	Lastings, ,,	Yu-ling.
Hemp (for making grass cloth.)	Long Ells, ,,	Pili.
Lead (from Yunan).	Tea (from Hounan), ,,	Cha.
Medicinal drugs.	,, (inferior from distant parts of Sz'chuan.)	
Opium.	Sundries, such as :—	
Raw silk.	Brass buttons, called	Hwang-tung-mow.
Rhubarb.	Telescopes, ,,	Tseen-le-king.
Rice.	Pistols, ,,	Tuy-meen-seaou.
Salt.		
Sugar.		
Silver		
Tin		
Tobacco		

Ascending the river still further, coal and lime, with occasionally gold workings, frequently occur, varied by the most exquisite scenery and careful cultivation, till at length the traveller rests satisfied at Su-chow. He might indeed proceed about 70 miles further, until arrested by the falls reported by the natives to exist; but as

there is at present little or no trade the commercial tourist is not likely to proceed beyond this point. Su-chow is at the mouth of the Min, a river navigable for 100 miles as far as Ka-ding. It stands 923 geographical, or 1,000 statute, miles from Hankow, and although the productions of the neighbourhood are very varied, viz.:—silk, wax, tobacco, honey, green tea, iron, and coal—it depends chiefly on its transit trade. Its coal is both abundant and good, specimens which have been examined at home having been pronounced the best yet discovered on the Yang-tsze, and admirably adapted for steam purposes.

Surely the readers of the foregoing will agree with the writer in saying that it is time this magnificent river was thrown open to British enterprise, and in the expression of a hope that in future diplomatic arrangements the interests of the Great Yang-tsze Development Company, certain sooner or later to be formed, will not be neglected.

WILLIAM COCHRAN.

BOUILLON CAKES, according to M. Reinsch, are made as follows:—Lean beef or veal is cut into thin slices. These are spread on a sieve and dried in hot air at a temperature of 100° C. After awhile they are dry enough for pounding in a mortar, where the necessary quantity of salt is added. The preparation is next roasted with flour, etc., in the proportion of 11 of fat to 20 of flour, 64 of beef, and 4 of salt. The cakes are packed in tin boxes.

UNWHOLESOME PORK.—On Tuesday, the 14th of May, at Lambeth Police Court, a cheesemonger, of Lambeth Walk, named John Coman, was charged with having on his premises a quantity of meat which was unfit for human food. Mr. Baxter, one of the inspectors of nuisances for the vestry of Lambeth, stated that on the 8th inst. he visited the shop of the defendant, and asked to see the meat he had upon his premises. Defendant showed him two barrels, in which witness found 98 lb of pigs' heads, and 172 lb of pork, the whole in brine. It sent forth a most offensive effluvium. There was also a quantity of pork chops exposed for sale in the shop. The whole of the meat was quite unfit for food, and was seized and condemned by the magistrate at this court. Dr. M'Cormack, medical officer of health to the parish, said the whole of the meat was unfit for food. He believed the animal had either died from illness or was killed whilst suffering disease. This was positively shown to be the case when he subjected portions of the meat to a microscopical test. Defendant said he bought the meat in Smithfield, and gave a fair price for it. He had no notion of its being at all bad. Mr. Chance remarked that it was a most serious thing for the public, and particularly the poorer classes, who bought such food. It was one of those dangerous means by which disease was spread, and he certainly could not allow the case to be ended without inflicting a penalty, which might act as a warning to others. The defendant would have to pay a fine of 5*l.*, or, in default, undergo one month's imprisonment.

COOKERY PAPERS.

No. 10.—ENTRÉES.

"And any pretty little tiny kickshaws, tell William Cook."

ENTRÉES may be said to be of two kinds. The first kind which I will consider are the grand conceptions of a highly cultivated culinary intellect, the mysterious *plâts* of an evanescent nature, in which culinary talent has contrived to disguise the ingredients so effectually as to defy every endeavour to analyse their component parts; whilst at the same time some distinguishing feature, or some particular flavour, is allowed to predominate, so that the idiosyncracy of the dish may be retained, and the individuality of each cognomen clearly defined; hence the *cognoscenti*, the *dilettanti*, and *connoisseurs*, may readily recognise these *chef d'œuvres* of the *cuisine*, not only by name, but also by their distinctive features; and any *entrée*, which through its merit is deemed worthy of continuous repetition, should therefore be the same in name and character whenever it is prepared. What I mean is, that *filets de pluviers à la Marie Antoinette* are *filets de pluviers à la Marie Antoinette* all the world over; every *chef* whose merit is of a high order will present the dish in the same form. Many people think that an *entrée* is simply a haphazard amalgamation of substances, to which a high sounding name is given; and that the name has little or nothing to do with the dish; but it is not so; each individual *entrée* of acknowledged excellence has a name which is or should be arbitrary, and its own distinguishing features. There is a vast variety of high-class *entrées;* their name is legion; and new ones are being continually added to the list. Eminent professors of the culinary art do not esteem it too great a sacrifice of time if four or five hours' continuous work are devoted to the production of an elaborate *entrée*, and frequently encourage the adoption of skilful decoration and tasty ornamentation. A favourite instance of this is a kind of Mosaic composed of edible substances of various colours, which is used as a case to be filled with *purée* or *ragoûts;* and also considerable skill may be manifested by carefully grouping together such colours as will have effect, and in many other ways by which the sense of sight is gratified as well as taste. In these works of culinary art, taste, though important, is not everything, as though the mind is influenced and receives its impressions, for good or bad, of what the stomach receives, from the palate, it is also assuredly

influenced to no inconsiderable extent by the impression conveyed through the retina of the eye. I would here inveigh against the too prevalent practice nowadays of larding (*piqué*) almost every conceivable substance. Bacon is a suitable addition to some things, but there are many delicious dishes spoilt because *chefs* will anoint every mortal thing with bacon, and call it *piqué*. There is, however, a limit to the license allowed to the cook, and he is no true artist if he attempts to distort, or, as he deems it, to improve upon, a work of acknowledged merit, instead of contenting himself with copying it. At the same time talent need not be hid under a bushel; it can invent for itself new *entrées* of occult and mysterious composition; but a spade should be called a spade all the world over. If a well-known name is used, the dish presented should be the dish that is known by that name. There are persons who call themselves *chefs*, who do not possess the redeeming qualification even of a love of their art, and who, to hide their ignorance of the fundamental principles of culinary science, delusively place on the *menu* well-known dishes with characteristic appellations, and actually have the barefaced impudence to produce, as such, some nasty decoction of their own depraved taste, which is no more the dish it pretends to be than I am the Emperor of Russia. But their craft is powerless to delude the practised *gourmet* or the true epicure; he can instantaneously detect the base deception; the glitter of the "Brummagem" title fails to have any effect; he takes the dish on its own merits, and his experienced palate unfailingly decides whether it is what it pretends to be or not. So much for the first kind of *entrée*, which I may perhaps term the epicure's *entrée*. It is in this branch of the study of the culinary art that the cook finds an almost illimitable field for the exercise of talent and skill; here is scope for his powers of invention which is not to be obtained to the same extent in any other branch of the art.

The second kind of *entrée* is, in its way, every whit as good and effective as the more complicated, but it is of a simpler and more economical nature, and much more popular than the bad imitations of the more expensive kind. Every cookery book presents a great variety of cheap *entrées* of fish, meat, fowl, game, and other edible substances. An *entrée* may appear as a substitute for another course: for instance, a fish *entrée* is an excellent form of serving fish by way of variety, and to shorten the somewhat tedious length of time which is devoted to the set dinners of the present day. *Entrées* are a very effective style of *plât;* the most modest little dinner is redeemed from mediocrity, by the introduction of an *entrée;* it produces a happy effect on the minds of the guests; it

gives a tone and *éclat* to the *menu*, which without it would be pitiably prosaic; and which, though perhaps not wanting in art as regards the selection of the viands, would be nevertheless wanting in the exhibition of skill as regards the preparation of those viands. The *entrée* is a kind of guarantee that the culinary department of the establishment is not content to lumber slowly on in the "good plain-cook style," but that it is determined to study, and to practise, the *art* of cookery; and, although it does not aspire to the more difficult works of the highest branch of the art, yet it is not entirely without a certain amount of artistic conception; and, therefore, it does not attempt what it cannot successfully effect, but quietly sets to work and executes, what I may perhaps term, culinary sketches—simple, easy *entrées*—not so easy, though, but that they require care, attention, and trouble—such, for instance, as patties, rissoles, croquettes, cutlets, and many others. These little "kickshaws" are found very useful dishes, especially in houses where the mistress herself has to personally superintend the culinary department on special occasions, when a dinner or supper party is to be given. In such cases, of course, the dinner must be something out of the ordinary way, to mark the solemnity of the occasion: something beyond the plain soup, or fish, the joint, and the sweets; and it is the *entrée* which will supply this—without launching out into unwarrantable extravagance in the purchase of unseasonable delicacies. A dish of lobster cutlets; a *fricassée de poulet*; a few stewed pigeons, or a sweetbread, at once carries the whole proceeding out of the everyday, commonplace category, and relieves the entertainment from a too homely plainness. A knowledge of this branch of the culinary art, in its simplest and plainest form, is essential to the complete education of every cook, and it can be obtained at the expense of a little time, study, and trouble; but it is a branch of the art which is too much neglected, and which female cooks, left to themselves, are slow to learn and slower still to practise. It should be deemed by every mistress to be her bounden duty first to learn herself, and then to teach her cook, how to make these little delicacies, how to prepare side dishes, the *bijoux de la cuisine*. One very powerful reason for the acquisition of a knowledge of such a kind is its importance in cases of illness in pleasing the fastidious palate of the invalid; and also these made dishes, side dishes, or whatever they may be called, are many of them, if properly prepared, food presented in such a form that half the work of the stomach is already accomplished. Such a food, for instance, are *quenelles*. Hence, a powerful incentive is offered to

induce every mistress to study this particular branch of the culinary art, for the sake of being able to tempt and gratify the failing appetites of the sick child, or the invalid husband, whilst, at the same time, she produces a dish such as the delicate organization of a disordered stomach can receive without injury. And also, it must not be forgotten, that, under this heading likewise is included all the many and various ways of utilising remnants of roast or boiled meats, of using up pieces and parts left after the preparation of some particular dish. The cold fish left from yesterday's dinner, and the cold mutton, cold beef, cold chicken, or cold game, which is in too shattered a condition to admit of its being again sent to table, can all be used to form little delicate dishes, which Shakespeare terms "kickshaws." Of course, amongst the opulent, *entrées* are of everyday occurrence, and are *plâts* of considerable extravagance; but it is amongst the poorer classes of society that I would advocate their introduction, not as expensive delicacies, but as economical dishes, forming a grateful variety from the everlasting baked, boiled, and roast. Amongst this class, the *entrée* should be a pleasing, palatable, and inexpensive dish, composed of pieces, scraps, and the remnants of anything that may be left, with the addition of various seasonings and flavouring ingredients. The idea of such a consummation of excellence in cookery may seem somewhat Utopian, but it is only necessary that every mistress should learn that there are many ways of cooking besides baking, boiling, roasting, or broiling; and should understand that branch of the culinary art which treats of the preparation of *entrées*.

In conclusion, I would advocate a cultivation of the study of cookery in this especial branch on the score of economy. A knowledge of this department of the cook's business would lead her to produce tasty dishes and delicious food, from the leavings, the scraps, and the remnants which now too often find their way to the cinder-box or the dogs. Good food should not be thrown away, and excellent *entrées*, by the exercise of care and skill, can be composed of that which is commonly not utilised in ordinary households. Waste not, want not. If your cook says she has some pieces of meat that are "good for nothing"—tell her to turn them into an *entrée*.

A COOK.

NATAL GARDEN FRUITS.

In a recent article, allusion was made to the beauty and the more substantial qualities of the loquat, as it is known in the gardens of Natal. The granadilla is no unworthy companion to the loquat under either of these aspects. It is a very ornamental appendage of the garden, and it bears a fruit of considerable excellence.

The Natal granadilla is the smaller granadilla of the West Indian Islands. It is a passion flower—the *Passiflora edulis*—and possesses the general aspect and habit of that beautiful genus. It is a climbing plant with bold conspicuous tendrils, and broad fingered leaves, somewhat like those of the vine, but of much darker hue, and more glossy. The flowers are large and white, with the internal circle of the well-known passion flower fringe and stamens of dark purple. The flowers and fruit are seen amidst the rich glossy foliage at the same time; the fruit in all stages of development, from the small bright shining berry bearing its large frill of the residual pistil, to the portly and purple capsule of later maturity. The plant grows with great rapidity and luxuriance, climbing the rigid blue-gums and other suitable and available supports to considerable heights, and then hanging down in dense massive tangles of vegetation that not unfrequently bring their pendant masses to the ground from sheer weight.

The mature fruit is a pendulous oval capsule, about as large as an egg of moderate dimensions, smooth, shining, light green at first, but becoming dark purple with maturity. It has a thick, half-leathery, half-rigid rind, which shrivels and wrinkles as it ripens, and falls to the ground of its own accord when mature, and in a fit state for the table. The top of the leathery capsule has to be sliced off with a knife, to get at the flat slippery seeds, which are imbedded in a pulp which is both acid and sweet, and moreover of a very pronounced and remarkable fragrance. This pulp has to be scooped out from the stiff shell, and amounts, in each fruit, to two or three teaspoonfuls. The orthodox fashion of eating it is to stir in with it a teaspoonful of port wine. But if the fruit is properly ripe, the addition is an undeserved insult to its own

inherent excellence. Its own freshness and sweetness, tempered with a rich perfumed fragrance that passes inseparably and subtlely into flavour, confer upon it a refined distinction that port wine can only mask and destroy with its coarser strength. The fruit is eminently wholesome, and one of the most grateful and refreshing productions of the garden in the season of oppressive heat. It continues to ripen for a period of some months, each night yielding a harvest of windfalls for the servant to gather from the ground in his early morning round. The granadilla also constitutes a very excellent and choice preserve, the peculiar aromatic fragrance remaining as conspicuous in well-prepared jam as it is in the fresh fruit.

The yellow or St. Helena peach is, perhaps, on the whole, the most important *economical* garden fruit of Natal. It is a great favourite with the primitive settlers, the Dutch farmers, in whose company it first came into the district. A Dutch Boer's garden, or orchard, indeed, means pretty much a fenced-in patch of grassland densely crowded, almost to overgrowth, with these peach trees. The tree nearly resembles the ordinary peach tree of England when grown as a standard, but it is more hardy and luxuriant. It throws out its branches all round from a central stem, and grows up into a small bushy tree. The fruit is larger than the ordinary peach, and has the soft downy skin, but ripens into a bright golden colour like that of the apricot. Its great peculiarity, however, is that it is the exact opposite of a "melting" peach, such as the walls of English gardens produce. Even at its ripest and best it is so firm and fleshy that it can be pared and sliced like an apple with the knife, having something of the consistency of the unripe plum, and this firm fleshy texture clings tenaciously to the stone. The Dutch Boers eat it voraciously in the raw condition. There are almost incredible tales told as to the quantity that a South African "Vrauw" of the true breeding and stamp can dispose of at an afternoon's sitting as she pares and slices away with her knife. It is also said that a round three dozen is by no means an out of the way or unreasonable allowance for the "Baas," or "master," when he takes his early stroll through the orchard to whet his appetite for the in-door breakfast of his homestead. To cultivated English palates the fruit seems hardly worth eating in its fresh state. But it is undeniable that it always forms a most welcome and agreeable addition to the board when it is stewed, or baked with pastry. In that form it quite worthily takes the place of the English plum, being less rich and luscious, and for that very reason more wholesome and delicate, and more

fitted to be made, as it is, a very abundant and very frequent constituent of the meal. It will, as a matter of course, be inferred that it also furnishes a very delicious and valuable preserve in the form of jam.

This yellow peach has made itself entirely at home in Natal. It is so hardy, and so suited to the climate, that it grows and bears its over-abundant crops of fruit everywhere and in all seasons, without any cultivation or care at all. In old deserted Dutch gardens of the more remote and semi-wild districts, it goes on producing its luxuriant burden year after year, just the same as if it were under the gardener's eye and hand, often literally paving the ground beneath the trees with the stones of its successive crops of waste windfalls, the baboons being the only gatherers of the harvest under such circumstances. The Dutch Boers distil an ardent spirit, known as peach brandy, from the superfluity of their peach crop. It is a light-coloured spirit of tolerable purity and of considerable strength, and so far imbued with the peach aroma and flavour as to constitute a pleasant beverage when duly qualified with water. In actual Boerdom the pigs very commonly share the peaches with the "Vrauw" and the "Baas" and his family. In some seasons the fruit is in such over-abundant plenty that pigs are fed with it, to their own entire satisfaction, for weeks at a time.

The yellow peach is seen in its glory in the garden of the Dutch Boer of the old and genuine stamp. The long straggling branches at the height of the season are literally dragged down to the earth with the enormous weight of their burden, the lengthy foliage drooping gracefully over and among the richly coloured and dense clusters of the golden drupes, and so conferring upon the tree an aspect of finished beauty which it by no means wears in its more ordinary position of erect rigidity.

The mulberry is now a common and abundant production of the Natal homestead and garden. The Natal mulberry, however, is not the large black luscious fruit of the *Morus nigra*—the English mulberry tree. It is the fruit of what is termed the white mulberry, a tree very highly prized for purposes of sericulture, or, with more exactness, of the *M. alba* and *M. multicaulis*, and also of an allied species familiarly known as the "China mulberry." In Natal the tree is in high favour for its economical value in the feeding of silk-worms, and also, in some measure, from its serviceable attribute of forming a rapidly-growing and easily-trained fence.

R. J. MANN, M.D.

[TO BE CONTINUED.]

NATURE'S WANTS AND FASHION'S REQUIREMENTS.

"MAN wants but little here below." Strange to say, this seemingly erratic fancy of an English poet has been concurred in and advocated by philosophers, physiologists, and physicians in every age. Moses, the mighty Jewish lawgiver, deemed it not derogatory to his high mission when he essayed, besides governing, to regulate the diet of the Israelitish people. Formerly, entire nations have been content with one meal a day; the demands of modern society render four or five necessary. No doubt the practice of taking but a solitary repast during the four-and-twenty hours was physically injurious, because of the quantity of food then consumed. Hence Celsus recommends those in good health to eat twice a day instead of once; whilst, according to Sanctorius, who condemns the like practice, "the body grows more heavy and uneasy after six pounds of food taken at one meal, than after eight pounds consumed at three; and he who makes but one meal in the day, let him eat much or little, is pursuing a system ultimately productive of mischief."

Privation, moderation, and excess! Each of these has its advocates and disciples. The peasantry of most European countries endure perpetual privation of necessity, not from choice. Some Roman Catholic religious orders contrive to support life and maintain health upon exceedingly scanty fare, such as would horrify a Lord Mayor, or even make a Newgate prisoner look askance. Indeed, during my Continental travels, when I had to accept the generous hospitality of a convent, I have been assured by an austere Carthusian—the prior of his House—that until the brothers began to take two meals a day scarcely any illness showed itself amongst the community. Mr. Thomas Carlyle conceives that a man may subsist upon fourpence a day. A physician residing at Malvern lately wrote a *brochure* in which he maintains that health and strength may readily be sustained by the mere outlay of sixpence per diem. History records that Alexander the Great, on setting out on a march, dismissed his cooks, observing that he carried with him superior assistants, viz., a long morning's journey to serve as an appetiser to his dinner, and a frugal dinner

to give a relish to his supper. Milton seems to have favoured the idea of low living, when he observes:—

"I join with thee calm peace and quiet;
Spare fast, that oft with gods doth diet."

In sooth, dietetics have long become a philosophy, of which school there are several sects, each of which battles stoutly for its opinions, acting on the laconic sentiment of the Roman satirist, "Marcus dixit?"—

"Did Marcus say 'twas fact? then fact it is,
No proof so valid as a word of his."

Ordinarily, the inhabitants of this country partake of three meals a day, namely, breakfast, dinner, and supper. With many, what is called "tea," forms an additional repast. With regard to the morning meal, how greatly have we changed even since Queen Elizabeth's time! Then a maid of honour, although highly bred, was not over-daintily nourished. She would breakfast heartily upon beef, and wash it down with copious draughts of beer. Even the Queen herself did not at all disdain such a coarse repast. But then it must be borne in mind that our ancestors were hardier, possibly healthier, than their degenerate successors. Now, not alone the gentleman, but the artizan, breakfasts upon tea or coffee—luxuries which a century ago were procurable scarcely by the rich. So much for free trade and advanced civilization!

What sort of a morning meal should be taken? This is a question which has caused some contention among those erudite folk to whom we are prone confidently to look up for guidance. Learned authorities are divided as regards the utility of a *dry* or a *liquid* breakfast. Because, forsooth, Marcus Antoninus, made it a rule to eat a hard biscuit when he got up, this practice has been advocated. But most respectable medical authorities concur that as the insensible perspiration is so greatly promoted by sleep, a liquid meal becomes absolutely necessary.

But such may not suit every stomach; for the stomach is occasionally a stubborn jade, that will persevere in its obstinacy, succumbing to no treatment, gentle or severe. It becomes as sensitive to the presence of certain kinds of food as do the olfactory nerves of a Roman lady to perfumes, creating sickness, and even syncope; so that it is quite possible to realize the poet's sentiment, and to

"Die of a rose in aromatic pain."

Tea, accompanied with bread and butter or hot toast, for example, speedily creates heartburn in some people, owing to the oily part of the food becoming separated by the heat of the liquid. New-

bread is usually deleterious, in consequence of its being difficult of assimilation, no less than from the distension it occasions. Muffins and crumpets are still more so. I have frequently noticed the wan, bloodless faces of pretty American women, especially in the Southern States, and have reason to believe that this peculiarity is, in a great measure, owing to their fondness for hot buckwheat cake, which they consume with avidity. In partaking of the first meal, it is necessary to observe one broad rule—namely, that its solidity should be regulated by the labour and exercise to be performed, and to the time allotted for dinner. Luncheons, as a rule, are neither necessary nor desirable, either for the robust or the infirm. A mid-day repast between breakfast and dinner is peculiar to this country. It has been aptly denominated an insult to the former, and a reproach to the latter. A great many people seem to adopt the specious aphorism of Dr. Temple, that "the stomach is like a schoolboy, always at mischief unless it be employed." But modern physiological science is directly opposed to such a pleasant theory, which, according to one authority, "has occasioned more dyspeptic disease than that respectable physician could ever have cured, had his practice been as successful as that of Æsculapius, and his life as long as an antediluvian."

Another question arises—When is the proper time to dine? We may readily reply to this by simply paraphrasing a line from Dr. Young's "Night Thoughts":—

Nature cries ONE, while Fashion points at EIGHT.

With the ancient Romans dinner consisted of a light, slight meal, partaken of more to ward off faintness than to satisfy the sensations of hunger, or even to convey nourishment. But with us dinner is considered the chief meal of the day, and hence its elaborate character, principally in the upper circles of society. Three hundred years ago it was customary with Englishmen to dine as early as ten of the clock. This was the hour adopted by both Universities; which hour was upheld during the middle of Elizabeth's reign, when eleven o'clock became the fashionable time for dinner.

"With us" (observes the author of the "Description of England," appended to "Holingshed's Chronicle") "the Nobilitie, Gentrie, and Students do ordinarile go to dinner at eleven before noone." But how the leading families of the country could have contrived to act thus, considering their irrepressible fondness for all kinds of rural sport—which they would seem to have made the serious business of their lives—sorely puzzles me to conceive. That the titled

and untitled gentry of those days did not practice self-denial is beyond dispute, for they ate as heartily and drank as frequently and freely as did the famous friar of old, immortalized in bacchanalian song. Not so, however, with the students of Oxford and Cambridge. Their diet was mean and meagre enough, and their drink presumably at the best but "small beer," and little of that. During the reign of Edward VI., the Master of Emanuel College, Cambridge, preached a sermon at St. Paul's Cross, in which allusion is made to refectory observances in that seat of learning:—"At Ten of the Clocke," he observes, "they (the Students) go to Dynner, whereas they be content wyth a penye pyece of byefe amongst iiii, havyng a few potage made of the brothe of the same byefe, with salte and stemell and nothynge els." And on this poor and scanty diet the half-starved students had to keep up their strength and studies until five o'clock, when "they have a Supper not much better than theyr Dynner." Clearly those students cared for no delicacy of fare, or curiosity of diet, but simply ate to sustain life.

It has been averred that the best time for dining is, "for a rich man, when he can get an appetite; and for a poor man, when he can get food." But this aphorism is neither reasonable nor practicable. Some regularity must be observed, and for obvious reasons; such regularity, in truth, being necessary to health. There can be little doubt, however, that the very late dinner hour patronised by modern society is highly unnatural, undesirable, and pernicious. The fatigues undergone by fashionable folk during the day do not tend to whet appetite—rather they serve to blunt its cravings; besides, the stomach of such is deteriorated, and unfitted from properly fulfilling its functions. Of course, tempting viands are presented on the dining tables, prepared by practised and skilful cooks, while the pleasures of love, friendship, and social converse become added as incentives. All the more dangerous, I should say. It is possible to cloy the stomach, and yet derive no benefit therefrom, but contrariwise. Better be in the condition of the Cambridge students of yore, and "diet upon fasting every day," than cause the human system to receive more than it can digest. "I restrained myself," observes Bacon, "to so regular a diet as to eat flesh but once a day, and a little at a time, without salt or vinegar."

"Tea" seems a salutary repast, and is really refreshing and beneficial, especially when taken three or four hours after dinner; because, if drank directly after the principal meal, not only does it create distension, but its narcotic and astringent principles are likely to arrest due assimilation. This is proverbially a social

repast, while "the cup that cheers, but not inebriates," has introduced and cherished a spirit of sobriety in society, the good effects and extent of which it is difficult to compute. "Those persons who dislike tea," observes one writer, "frequently supply its place with spirit and water."

Suppers are going out of vogue, except, indeed, our fashionable late dinners are meant to take their place. In Elizabeth's time it was customary to sup between five and six, and go to bed at ten o'clock. This arrangement manifestly would not suit our present social habits, by which health is so seriously sacrificed to expediency and etiquette. Late suppers, especially if heavy, are decidedly injurious. The worst consequences have been known to ensue therefrom. "Amongst the intellectual part of the community," remarks a medical writer, "there has ever existed a strong predilection in favour of suppers: the labour of the day has been performed, the hour is sacred to conviviality, and the period is one not likely to be interrupted by the calls of business." But he goes on to observe: "The hilarity which is felt at this period of the day must not be received as a signal for repairing to the banquet, but as an indication of the sanguification of the previous meal." Possibly it is owing to this very hilarity that supper has been designated "the feast of wit," just as breakfast is considered "the meal of friendship," and dinner that of "etiquette."

I apprehend it would greatly redound to the advantage of the community, especially of the "Upper Ten," were the wants of Nature made to give precedence to the Requirements of Fashion. The latter change, but the former do not; and man, being presumably intellectual, should diet himself scientifically and on principle. One might well feel sensations of loathing upon perusing the details of a modern civic banquet, as though human beings were to be stuffed like turkeys, or money was of no further value than to be cast away. Intemperance, of course, is detestable, but gluttony is a far more glaring and debasing sin: "Hures crapula quam gladius."

S. PHILLIPS DAY.

SEAWEED AS FOOD—In an account of trade in North China the following occurs:—Among the imports may be noticed seaweed from Russian Manchooria, furnishing employment for a considerable amount of tonnage in the summer months, and largely consumed in China as an article of food. It is gathered along the coast by Chinese and native dredgers, near Passiett, Port May, and Olga Bay, and forms almost the sole article of exchange for the piece goods, liquors, stores, and other articles of Chinese consumption in demand at those Russian settlements. The trade is conducted almost entirely by barter.

WATERCRESS.

THERE are many edibles, natives of our own country, hawked about the streets, of which we might be supposed to know more than we actually do. The watercress is one of them, and most of us no doubt have seen it growing where nature has placed it, in some shallow and remote stream.

Many who love a ramble in the fields in search of wild flowers have halted by the side of some refreshing brook to gather the watercress; but it is not from the pleasant brooks and streams of England that our markets are wholly supplied, or the best quality of watercress grown, for, like other edible plants, it is improved by cultivation; not only are the leaves and stems larger and more tender, but the flavour is greatly improved; consequently its cultivation is an important and remunerative branch of market gardening.

The plant, which is known to botanists as *Nasturtium officinale*, is a hardy perennial, belonging to the natural order, *Cruciferæ*, the family to which many of our commonest vegetables belong, as the cabbage, radish, turnip, etc.

The watercress varies greatly in the luxuriance of its growth, according to the situation in which it is found. It thrives best in springs or clear running water, where the bottom is either sandy or gravelly; and in such a situation it will sometimes grow a foot above the surface of the water, though its more usual height is about six inches. Its little white flowers appear in the months of July and August, and are succeeded by small cylindrical pod-like fruits. The plant is of a creeping habit, and its smooth, shining, very often brownish green leaves, composed of five or seven ovate or rather heart-shaped leaflets, are well known. When the plants are surrounded by other vegetation, or when they grow in running streams, the leaves become longer and of a much brighter green; those of a brownish tinge, however, are preferred for table. The edges of the leaflets are very slightly sinuated or waved, which is a very good characteristic to distinguish them from those of the water parsnip, with which they sometimes get mixed, and which are decidedly serrated or saw-toothed.

The watercress has been introduced into North America and

some of the British Colonies. In New Zealand it forms a stem as thick as the wrist, almost choking up many of the rivers. It appears to have been known to the Greeks both as an esculent and as a medicine useful for disorders of the brain. In Pliny's time it was also in great repute. We read, besides, that Xenophon thought very highly of the plant as a strengthener, and recommended it to the Persians to give to their children for the purpose of strengthening them and adding to their stature. It was perhaps from this historic authority that the housewives of a few generations back gave to their children, in the spring of the year, a "health-giving" draught, which was a decoction of watercress, brooklime, scurvy grass, and oranges. It is said that the ancients ate watercress chiefly with lettuces, the stimulating properties of the former counteracting the coldness of the latter. It has been suggested that the watercress, in consideration of its being found indigenous in most parts of Europe and Northern Asia, "was probably one of the first green esculents employed by the early races that peopled those regions, and it is even said to have been, at a remote period, an object of cultivation in some parts of Northern India." The first attempts, however, to cultivate the watercress by artificial means in Europe appear to have been made, about the middle of the sixteenth century, by Nicholas Meissner, in the numerous streams which abound in the vicinity of Erfurt, the capital of Upper Thuringia. The water and soil suiting the plants, they thrived, and their cultivation became a great pecuniary success; and the Erfurt watercresses were renowned for their superior quality. This success resulted in many plantations being established in various parts of Holland and Germany. The cresses grown at Erfurt, however, were, and are still, considered of superior quality, and are sent in large quantities to the markets of Berlin, a distance of about 150 miles.

In the early part of the present century, the cress plantations of Erfurt were so profitable that they were let by the cultivators to the authorities of the city at the yearly rent of 2,400*l.*; and the value has since that period considerably increased. The crops have been known to realise, in one year, as much as 8,000*l.* Watercress plantations have since been established in the neighbourhood of Paris, as the demand in the French capital, in its more prosperous days, was very great, the estimated annual value of the cress sent to the Paris markets exceeding 37,000*l.* For conveyance from the plantations, the cresses are packed in large baskets, containing many dozen bunches each, in such a way as to leave an entirely open space down the centre of the basket, which admits of a free

circulation of air. The whole is then well watered before being loaded into the waggons, and thus delivered quite fresh at the markets.

We read of watercresses once growing in large quantities in the waters of Tothill Fields, Westminster, and even on the neighbouring banks of the Thames itself; but the first we hear of their cultivation in anything like a regular manner, in England, was in the year 1808, at Springhead, near Gravesend, where, we believe, they are still grown to a large extent, and the cress is noted for its superior quality. When the success of this plantation became known, others were soon started in many parts of the country where natural and suitable springs existed. In the neighbourhood of London especially were these watercress beds formed, some of which were many acres in extent; some still exist, some have been done away with, and some new ones have in course of time been formed, the produce being nearly all consumed in London; indeed, the supply is scarcely adequate to the demand. Some of the most noted watercress plantations in the neighbourhood of the metropolis are at Uxbridge, Rickmansworth, and Waltham Abbey. They are also grown to some extent at Hackney and several other places near at hand, and at one time quantities were even brought to London from Salisbury.

Some idea may be had of the importance of this branch of trade in London alone, when we state that it is computed that between 6,000 and 8,000 bunches are daily brought into the markets, and that the sum annually realised from the sale of watercress exceeds 10,000*l.*

The watercress is undoubtedly a very wholesome plant, and an excellent anti-scorbutic; and there are but few persons to whom it is not agreeable in its fresh green state. It is, moreover, sometimes cooked for table in a similar manner to celery. The common name of *cress* seems to have been derived from the four petals of the flowers forming a cross, which is a character of the whole group, and from which, indeed, the order takes its name of *Cruciferæ*. The botanical name *Nasturtium* indicates its pungency or effect upon the nose, from *nasus tortus*.

JOHN R. JACKSON, A.L.S.

M. ZETTERLAND says that in mashing potatoes for distillation he found that, in using sulphurous instead of acetic acid or sulphur, he obtained a larger proportion of alcohol, the fermentation was more complete, and there was less residual acid in the mash.

NOTE ON MAIZE-CULTURE IN AFRICA.

A CORRESPONDENT of mine writes:—"I observe that Dr. Mann, in his interesting paper on 'The Staff of Life in Kaffirdom,' adopts the generally accepted hypothesis that the tea maize, the great food-staple of the Kaffir races, was introduced into Africa after the days of Bartholomew Diaz, and most probably by the Portuguese adventurers who frequented its shores in the sixteenth and succeeding centuries. A few 'facts and fancies' from the far East suggestive of a different theory may, perhaps, be new and interesting to the readers of the *Food Journal*. About five years ago Dr. Hance, her Majesty's Vice-consul at Whampoa, addressed a communication to a useful little monthly periodical, then published at Hong-Kong, but since discontinued, entitled 'Notes and Queries on China and Japan,' in which he adverted to the statement of Von Siebolel that the maize plant was a charge in the ancient armorial bearings of Japan, and added that some researches kindly undertaken by an eminent Chinese scholar had led him to believe that maize had been cultivated in China, as well as in Japan, in very early times. This statement elicited several others of conflicting purport; amongst them was one from a well-known writer on Chinese subjects, Dr. S. R. Williams, who observed that the question thus opened afforded an interesting topic for investigation in connection with the remarkable similarity known to subsist between the floras of Japan and of North America, and those of New England; but that the argument to be deduced from a study of the numerous names given to the plant in China and Japan was against its being indigenous there. This produced a rejoinder in the shape of an exhaustive note, signed W. F. Mayers (the authority referred to by Dr. Hance), in which the reasons for believing that maize was cultivated in China, prior to the advent of Europeans are given at length. The chief arguments are as follows:—In the 'Pen T'sao Kang Mu,' the great Chinese authority on botany and other cognate subjects between A.D. 1552 and 1578, there is a full and unmistakeable account of the maize plant, which is stated to have been then in extensive cultivation in China. It is accompanied, in the first edition of the work, by a figure of the plant, given with truly Chinese minuteness, which is copied in No. 6 of 'Notes and Queries on China and Japan.' The Chinese writer also states that the plant was introduced from the country beyond the western frontier, *i.e.*, Central Asia. This, it will be observed, was written rather

more than half a century after Columbus had first set foot on the shores of the New World, and while the plant was still a curiosity in Europe. Moreover the only Europeans who visited China at this period were the Portuguese freebooters, who ravaged the coasts of Kwang-Tung, Tokein, and Chekiang, between 1517 and 1560. The Portuguese settlements along the south coast were established some years later, and were mere trading ports. Again, in 1619, Seu Kwang K'i, the famous minister of State and mathematician in the reign of the Emperor Wang Li, in his 'Complete Treatise on Agriculture,' speaks of maize as being extensively cultivated, and as having been brought from Central Asia. Seu Kwang K'i was a Jesuit convert, much devoted to Europeans, and it may fairly be presumed would not have failed to give his preceptors the credit of having introduced a plant upon whose merits he descants so largely, had they any claim thereto."

From these and other considerations, my correspondent is of opinion that maize was extensively cultivated in China prior to the advent of the Portuguese. He is disposed to believe that it was brought thither from Japan. He adds, on the authority of a native scholar, that in the great maize-growing province of Kwei-Chow oral tradition attributes its introduction to the great general Nau Yuan, of the Han dynasty, who warred in Cochin-China and Central Asia about A.D. 30.

In a very learned pamphlet on "The Knowledge Possessed by the Ancient Chinese of the Arabs and Arabian Colonies and other Western Countries mentioned in Chinese books" recently published by Dr. Britschneider of the Russian Legation at Pekin, it is shown from the Chinese dynastic histories, and the writings of Arabian authors, that the Arabs were equally well acquainted with the routes to China by sea and land as early as the ninth century of our era, and that there was commercial intercourse between the Arabs and Chinese during many succeeding centuries. In 1427 an embassy arrived at the Chinese Court from Zanzibar, and other embassies are mentioned by Chinese writers as having arrived in China from the East Coast of Africa during the same century. So much for "facts." Next come the "fancies." It certainly appears probable that maize was grown in Eastern Asia at a period anterior to the arrival of Europeans, and it is at least possible that the intercourse of Arab traders with the far East, prolonged through many centuries, may have been the means of introducing this prolific cereal into Africa long ere the sturdy mariners of Diaz had doubled the points of the "Cape of Storms."

H. M. Chichester.

MARKETS OF THE MONTH.

In consequence of the cold weather, all kinds of spring produce command a higher price than is usual at this season of the year. Green gooseberries came in at 1*s.* per pint, but are now selling at 7*d.* or 8*d.* Asparagus, too, has, under the circumstances, very naturally declined to become cheap, and is making from 3*s.* to 5*s.* per bundle. New potatoes (kidneys) from Cornwall maintained a good price for a considerable time, starting at 1*s.* 6*d.* per lb., but arrivals from Jersey have brought the price down to 7*s.* or 8*s.* per dozen lb.; Lisbon round are making 22*s.* per cwt.; Jersey kidneys, 4*s.* to 7*s.* per dozen lb.; Jersey round, 5*s.* to 6*s.*; green peas from France are worth 6*s.* to 10*s.* per pad; apricots in boxes, also from France, each box containing from 18 to 24 fruit, 2*s.* 6*d.* to 3*s.* 6*d* per box; cherries, from the same country, in 2 lb. boxes, 2*s.* 6*d.* to 3*s.* 6*d.* per box; broccoli is still in market, but it is getting over—price 2*s.* 3*d.* to 3*s.* per dozen. There are a few English turnips, grown in houses, now purchasable at a cost of 1*s.* 6*d.* to 2*s.* per bunch, and young carrots (French), 1*s.* 3*d.* to 1*s.* 6*d.*; cucumbers are making from 6*d.* to 1*s.* each; French beans, 3*s.* 6*d.* per 100; forced strawberries, from 9*s.* to 15*s.* per lb.; peaches (English), 3*s.* to 3*s.* 6*d.* each; grapes (hothouse), from 6*s.* to 10*s.* per lb.; pines (English), from 12*s.* to 14*s.* per lb.; grapes from Jersey are worth from 6*s.* to 8*s.* per lb.; lemons have become dearer, and prices are still likely to rise; cherries in baskets, from France, admirable for tarts, will arrive in about a week or ten days; and new Brazil nuts are shortly expected, as are also onions from Belgium, in 1 cwt. bays. The only kind of oranges in market now are Valencias; the few St. Ubes or Lisbon are very inferior. Valencias are making from 24*s.* to 27*s.* 6*d.* per case; lemons Messina), from 18*s.* 6*d.* to 25*s.*

Fish is, comparatively speaking, cheap. Lobsters have resumed their normal price, and crabs are plentiful. Whilst on the subject of crustaceæ, I may perhaps be excused for digressing to say that every year a less quantity of river or fresh-water crayfish is brought to market. Some days it is impossible to procure a single specimen in Billingsgate Market. Nearly 4,000 pads of mackerel, for the most part very fine fish, were dispatched by ordinary and special trains from Penzance on May 3; the bulk of this

very large supply coming to London. Nearly all the fish were caught north-west of the Scilly Islands, and two steamers were freighted with upwards of 2,000 pads, which they landed at Penzance in excellent time. Several boats ran to Newlyn and landed their cargoes, which were packed and hurried off to Penzance railway station, and thence sent to London by special train. Altogether very little short of 200 tons of mackerel—the largest single day's catch remembered—were secured on this day by the Mount's Bay and St. Ives boats.

It is a very fair season for salmon. Small fish are making 1*s.* 4*d.*, large fish 1*s.* 9*d.* to 2*s.* per lb. Plentiful supplies of soles at 1*s.* per pair, turbot at prices which stand in about 9*d.* or 10*d.* per lb., brill, cheaper than turbot, and whitings, are in market. Red mullet are scarce and dear; salmon trout. 1*s*, 6*d.* to 1*s.* 9*d.* per lb.; besides which there are John Dorys, gurnet, haddocks, and many other kinds of fish in season now. Oysters are now out of season—peace be to their manes! for peace is essential to their multiplication.

Poultry will soon be cheaper, as chickens and ducks are becoming more plentiful: old ones should be regarded as antique curiosities, and are not good for food. Leverets are making from 4*s.* to 5*s.* each; goslings, 7*s.* to 9*s.*; quail, from 1*s.* 3*d.* to 1*s.* 6*d.*; ruffs and rees, 1*s.* and 10*d.* each; ducklings, 3*s.* to 3*s.* 9*d.*; chickens, 2*s.* 9*d.* to 3*s.* 9*d.* Pullets and capons should be looked upon as *rara aves*. If any epicure desires to be eminently extravagant, let him indulge in ortolans at 3*s.* 6*d.* each. Plovers' eggs are now very suspicious, and the taking of their eggs so late in the season as the present time is wanton destruction, for they are certain to be unpleasantly animate.

Though one cannot eat coals, they have a great deal to do with eating, and it may not, perhaps, be considered out of place here to remark that we are threatened eventually with a further rise of 3*s.* per ton. The sugar market is spasmodic and flighty, and I would recommend purchasers of sugar for preserving purposes to wait till the summer. Speculation at present, I think, would be unwise: for it is not likely that market prices will be higher, and they may be lower. The meat market, in consequence of the cold weather, is firm. Prices are well maintained; but lamb, in consequence of reserving so many for stores, still remains dear. Quotations are from 7*s.* 6*d.* to 8*s.* per 8 lbs. by the carcase.

May 15. P. L. H.

NOTES OF THE MONTH.

A RECENT issue of the *Dublin Evening Mail* gives a gloomy account of the fearful extent to which the adulteration of whisky is carried in various parts of Ireland, particularly in the North. It appears that Dr. Hodges, of Belfast, having had occasion to examine various samples of spirit, found them to be adulterated with naphtha, cayenne pepper, and vitriol. One specimen, indeed, might rather have been described as naphtha adulterated with a slight colouring of whisky; and it is mentioned as a fair sample of the liquor supplied to customers in the low-class public-houses of that town. Even this audacious fraud seems to have been thrown into the shade by the unblushing effrontery of an itinerant quack, who, by the aid of the materials already mentioned, united to a little bluestone and spirits of wine, converted a gallon of water into a gallon of whisky at the cost of one penny! The effects produced by drinking such a horrible compound are described as appalling. *Delirium tremens*, brought on by the abuse of pure spirit, is terrible enough, but even this awful disease pales before the frightful madness induced by the adulterated and simulated Belfast whisky.

FROM the comprehensive subject of alcoholic consumption and adulteration we may turn for a moment to a sad phase of drinking peculiar to Frenchmen, which we fear is on the increase. Absinthe drinking seems to have been unknown among our lively neighbours before the reign of Louis Philippe, and then it appears to have been introduced by the army doctors, during one of the Algerian expeditions, as a preservative against miasma, in place of the more expensive quinine. Like the opium habit, this seductive poison only required a commencement; it reached Marseilles at the termination of the campaign, spread to Paris, and, unfortunately, has now become at once the favourite drink and greatest curse of the nation. The habitual absinthe-drinker is first alarmed by repeated contractions of the lips and muscles of the face, accompanied by tremblings of the extremities. Loss of physical power soon follows, should the initial warning be neglected; his hair drops off; a melancholy expression settles on his wan countenance; and his body becomes emaciated, and his skin wrinkled and yellow. Still persevering in his hideous indulgence, lesion of the brain occurs; horrible dreams disturb his sleep; illusions,

giddiness, and hypochondria torment his waking hours; and at length he sinks, a shattered paralytic, into an untimely grave. If the new French tax on liquors seemed likely to restrain the consumption of this noxious stimulant, the people might hail it with joy; but we fear that absinthe-drinking has now obtained a hold which mere legislation is powerless to relax.

The ability to masticate food properly, so as to commence that wonderful chemical process which results in the nourishment of the human system, depends on the soundness of the teeth. When these have decayed and become partially useless, or are, at best, only so many centres of perpetual agony, the sufferer surely must gladly hail any reasonable method of relief with open arms, or rather jaws. Take comfort, therefore, ye afflicted ones! for the Odontological Society have discovered a plan of replanting teeth which have been extracted in consequence of disease. No longer need any melancholy, flannel-swaithed ghost, flit about his chamber of horror, convulsively clutching his aching face, rendering his proximity unutterably dismal by his tones of woe. He has but to undergo the delightful process of replantation, when, at the end of a fortnight, he will feel as if his youth had been renewed. The ordeal, as simple as, we are assured, it is satisfactory, consists in the very careful extraction of the aching tooth to prevent laceration, its immediate cleansing, scraping, and stopping, and its return into its original socket within half an hour.

The national importance of cultivating our salmon preserves needs no elaborate plea. Times are changed since that curious period in Scotland when farm servants invariably stipulated, on being hired, that they were not to have salmon more than three times a week. If a plea were required, we have only to point to the enormous increase which has occurred in the capture of matured and wholesome fish in English and Welsh rivers, leaving the enormous quantity of Scotch and Irish salmon out of view, during the last nine years. In 1863 the value was calculated at 18,000*l.*; last year the estimated result was 100,000*l.* Great as this advance has been, it is an undoubted slur on our discernment to be told that our southern rivers do not yield one tithe of the fish they might and probably will yield a few years hence, when all the precautions taken by our fishery inspectors, and by the Pollution of Rivers Commissioners are in full working order. Even under the present partial system of protecting rivers, we learn from Messrs. Buckland and Walpole's

annual report, that twenty-two of the rivers under inspection showed an increase of salmon as compared with last season; seven rivers revealed a diminution, and only seven occupied a doubtful position, it being uncertain whether the supply of fish in them had remained stationary, increased, or diminished. A vast impediment to the natural augmentation of salmon consists in the reckless poaching, at the close season, which prevails on some important rivers. On the Conway, for example, Mr. Buckland says that the slate quarrymen are in the habit of making up gangs of between thirty and forty men, who blacken their faces, and scouring the river, kill every salmon they catch. One party of thirty-five poachers recently made a raid on these salmon beds, and decamped with about a ton of fish. Only one of their number was secured, and he had seven salmon in his possession. But a graver obstacle to our salmon fisheries lies in the contamination of rivers with the refuse of mines, manufactories, and sewage, which pollution, flowing over miles of valuable spawning ground, thoroughly ruins it as a nursery. Unfortunately, it is precisely those Salmon Acts which refer to the pollution of rivers which have so lamentably failed. It appears the phraseology of the Acts is so loose that the law almost invites evasion. We recommend the report to the earnest study of our legislators, and trust that such an important article of food as salmon will no longer be left at the mercy of Welsh geologists, and that means may be discovered by which the reproach of poisonous contamination may be removed from our rivers.

FROM the subject of salmon cultivation and preservation the transition to marine and fresh-water aquaria seems natural. Those appliances must ultimately come to be regarded as economical piscatorial laboratories, wherein definite experiments may be worked out, and the results afterwards applied to our fisheries. We are convinced that if half the intelligence and money had been expended in this direction which have been lavished on unfortunate attempts at pisciculture on some of our rivers, and on the frequently misplaced efforts towards the encouragement of shell-fish on our coasts at spots where

> "Dame Nature herself has thus decreed:—
> Nor testa', nor crusta' shall ever feed,"

we should long ere this have had abundance of marine and fresh-water food from every creek and river where testaceous, crustacean, and piscatorial life are possible. It surely cannot be urged that aquaria are a new invention, and an excuse for their seeming

neglect as experimental spawning laboratories founded on that plea, because we know that the "Vivaria" of the Romans corresponded in some degree with our modern adaptation of glass, iron, and ebonite. It is acknowledged, too, that artificial tanks were employed by the Chinese, who cultivated gold and silver carp in them long before those lovely fish were introduced into Europe, during the second half of the seventeenth century.

The Alabama demands do not appear to have altogether weaned Cousin Jonathan from keeping a vigilant eye on food questions. Curiously enough, the American Farmers' Club has lately amused itself discussing a subject about the last in the world, one would think, to create a diversity of opinion among the bucolic sons of the New World. They have actually been questioning the wholesomeness of one of their great staples of exportation—pork. One speaker, with a professional handle to his name, stated that "a man who could get even poor beef to chew had better eschew the flesh of swine." Another, who probably has a heavy stake in the business of artificially lighting Western hamlets, says that "he would use the pig only for lard, or convert him into oil, but would not eat him unless starved to it." On the other side, an admirer of pork asserted that he had consumed the succulent food from youth, and that now, in his seventy-seventh year, he desired nothing better than a slice of an animal fattened on corn. The first orator, not to be quenched, replied in effect that the ancient gentleman had commenced life with the constitution of a rhinoceros and the digestion of an ostrich. He had wedded the "best wife in the world," had enjoyed all the blessings of home, and had "retained his vigour, despite the fact that he ate pork." What are we unhappy islanders to think and do under such circumstances? Shall we henceforth shun all gustatorial use of the pig? Verily, no! Let us use the viand without abusing it, bearing in mind that the microscope will prove an infallible detective should ever any suspicion arise.

Mustard can scarcely be reckoned among the condiments of the vegetable kingdom which have been at the basis of any romance; nevertheless, the Messrs. Colman's fancy mustard labels, according to the *Fiji Gazette*, have been a delusion and a snare to the native taxgatherer of Polynesia. It appears that the governor of Tai Levu, by name Ratu Epeli, has had to mourn the reception of quantities of this eminent firm's lithography instead of dollar notes, which his fuctionaries innocently imagined they were receiving.

IT used to be a boast among the economical that they could dine satisfactorily on 4½*d.*, but what would they think now when told that near Leicester-square they can for 2*d.* thoroughly assuage the pangs of nature with an enormous trencherful of fried potatoes and fish? Not only so, but a French correspondent of the *Echo* tells us that the mess "seems so savoury that you instantly forget the outside world, and yield, during five minutes, to the charms of a *tête-a-tête* with your plate." It appears that such is the reputation of this modest restaurant that liveried servants in disguise, and even club-men, may frequently, at night, be detected stealthily making surreptitious purchases of the delicious *pommes-de-terre frites*, then instantly vanishing through the portals of a hansom to consume the modest dainties elsewhere.

THE produce of the tea plant is a matter of so much national importance now, that we may stand excused if we refer to a letter which appeared many years ago in the *Bristol Journal* on tea cultivation. In it Mr. Routsey says:—"Having found the Chinese green tea plant (*Camelia viridis*) to be more hardy than some other shrubs which endure the open air in this neighbourhood, I have tried it upon the Welsh mountains, and found it succeed. I planted it in a part of Breconshire, not far from the source of the Usk, about 1,000 ft. above the level of the sea, and higher than the limits of the native woods—consisting of alder and birch. It endured the last winter, and was not affected by the frost of May. It has now made several vigorous shoots, and I have no doubt of its thriving very well." Probably some of our readers could inform us what was the result of this open-air experiment, and whether it ever happened to be tried elsewhere with success within the British Islands?

WE are much indebted to Sir John Peter Grant, Governor of Jamaica, for one of the ablest and most comprehensive reports on the products and prospects of that lovely island that has hitherto appeared. It seems that of the 2,720,000 acres comprising the total area, only 523,000 are at present under cultivation; but it is gratifying to learn that 30,000 acres were added to the food-producing resources of the island so lately as 1869. Resembling the sturdy but dogged British farmer of former times, who could not bend his great mind to the recognition of any other agricultural results than wheat and oats, and who was in the habit of scouting with contempt any suggestion to add to his income by the sale of poultry, eggs, and butter, the Jamaica planter seems

hitherto to have held aloof from all except sugar. The consequence has been ruin to such an extent that there are said to be now more farms than farmers; that many of the common lands are overgrown with jungle; and that once profitable estates languish without owners, occupants, or even claimants. Taking advantage of this sad state of matters, negro squatters soon settled upon the land and prosecuted a life of what they considered ease, but which in reality was one of laziness and vice. This evil, Sir John Grant at once grappled with, and to a great extent crushed, by the introduction of measures for the suppression of communism and vagrancy, by assuming ownership in the name of the Government when no proprietor could be found, and by granting leases to the squatters. Having accomplished a most desirable reform, the Governor next showed the agriculturists a new direction for their energies. In his report he says: "There is nothing to prevent Jamaica becoming, for the quality, variety, and commercial value of its fruit, the most noted spot in the world, when gardening shall be understood and the value of the art shall be duly recognised here." Strange as it may appear, until last year, the export of fruit had been meagre in the extreme, notwithstanding the example of the adjacent little Bahama Islands, which for years have been sending home annually 30,000*l.* worth of an inferior quality to that which Jamaica can produce. It is well known that this island is one huge tropical garden, but it may not be so familiar to our readers that the fertility of Jamaica for fruit-growing is boundless, not only in regard to indigenous plants, but also for those from other lands. The Bombay mango has been tried, and is now flourishing; two varieties of that most exquisite of all fruits, the mangosteen—rarely hitherto seen in perfection further west than Singapore—have been introduced, and four new varieties of the orange are under cultivation. But it is when he mentions pineapples in particular that the enthusiasm of Sir John reaches its climax. "All other specimens," he says, "compared with the Jamaica fruit, are impostures and delusions." Nor does he believe it possible to grow a really well-flavoured pine in the latitudes from which we obtain our present supplies. Considering that, according to a report of Governor Rawson's, printed in 1866, the price of pineapples at Nassau was 2*s.* 6*d.* per dozen in bulk, and the average selling price in London that year 12*s.* per dozen, and that the cost of transport is not much more from Jamaica than from the Bahamas, we are equally at a loss to account for the fact that the inferior fruit should have maintained its position so long, and that our commercial men should have hitherto neglected the superior capabilities of Jamaica.

CORRESPONDENCE.

To the Editor of the "Food Journal."

SIR,—Wanting a supply of preserved meat, I was induced to inspect, with a friend, the meat preserved by what is called "Jones' system," at the office of the Food Preserving Company, Houndsditch. The price charged, I think, should be reduced. I found that there is only one establishment for this particular process, and, consequently, that the company had the monopoly. If this process could be worked in Texas for beef, the River Plate for mutton, Canada, and perhaps the Western States of America, for Poultry, and the goods forwarded to this country, it would do much to reduce the price of provisions; for no man, woman, or child need have a more sightly or palatable food in every way worthy of an Englishman's table. I write this in hopes you will in some way or other bring such an invention promptly before the public, as a light like this should not be hidden under a bushel. I write to you because I know your *Food Journal* is looked upon as an authority in all such matters.—I am, Sir, yours obediently,

PATERFAMILIAS.

Bayswater, April 15, 1872.

[Our correspondent will notice that we have complied with his request in the present number. See "Popular Food Analysis."—ED.]

AT pages 186 and 296 of the Second Volume of the *Food Journal* are references to the Kei Apple (*Alberia caffra*) of South Africa as being an excellent fruit for preserving. In the March number of a monthly magazine published at the Cape, which is just to hand, we read, "The Kei Apple, an excellent native fruit, is now ripe. The tree is a prodigious bearer, one plant in full bearing being sufficient for the largest family. Eaten fresh, it is rather acid to most palates; but one or two in a pear or pumpkin pie impart a delicious piquancy to the whole. The great value of this fruit is as a preserve; it makes an excellent jelly, and is the most natural and agreeable substitute for red currant jelly to eat with roast mutton or game. The plant is invaluable as a hedge plant, making in a few years, in ordinary soil, a perfect cattle-proof fence. It is easily increased by seeds. In a few years we expect to see it as commonly in use as a hedge-plant as the 'Quick' or 'Thorn' in Britain."—JOHN R. JACKSON, A.L.S.

BOOK RECEIVED.

"ON FOOD: ITS VARIETIES, CHEMICAL COMPOSITION, ETC."; being the substance of four lectures delivered before the Society of Arts. By H. Letheby, M.B.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

TOMATES EN SALADE.

Peel some good-sized tomatoes, not over ripe; cut them in slices, and remove the pips; lay them in a dish previously rubbed with garlic, with oil and vinegar in the proportion of two to one; sprinkle pepper and salt over them, according to taste, and a few leaves of fresh basil minced fine. They should lie in the sauce for a couple of hours before serving.

SYRUP OF COFFEE.

This preparation is of great use to those who have long journeys to make. Take ½ lb. of the best ground coffee; put it into a saucepan, containing three pints of water, and boil it down to one pint. Cool the liquor, put it into another saucepan, well scoured, and boil it again. As it boils, add white sugar enough to give it the consistency of syrup. Take it from the fire, and when it is cold put it into a bottle, and seal. When travelling, if you wish for a cup of good coffee, you have only to put two teaspoonfuls of the syrup into an ordinary coffee-pot, and fill with boiling water. Add milk to taste, if you can get it.

À LA VINAIGRETTE.

This is a sauce much used in Paris for cold viands; and in a country like England, where, amongst the middle and lower classes, suppers are an institution, and cold joints, etc., often an incubus—as certain linendrapers say of their old stock—a few words about it may be acceptable. Sauce *à la vinaigrette* is composed of salad oil, vinegar, finely-chopped parsley, and shallots, onions, or chives, with pepper and salt to taste. For those who have no objection to oil this sauce is infinitely superior to mere vinegar, pepper, and salt. It is suitable for any kind of cold meat, and especially for cold calves' head, and is admirable with cold salmon, turbot, or indeed any sort of cold fish. Hard-boiled eggs also eat extremely well with sauce *à la vinaigrette;* so do many kinds of cold vegetables, and especially asparagus: in fact, this is quite as often eaten cold as hot in Paris, and always *à la vinaigrette.* Cold artichokes are also very largely consumed with this sauce. When used with cold meat, and particularly with calves' head, the addition of a few capers to the sauce is a great improvement; and with cold roast meat a ghirkin, cut up fine, is excellent. As this is a sauce produced almost entirely out of the cruet-stand, it suits well with our English habits. You rub up the salt and pepper with a little vinegar, then add as much oil as you please, with chopped parsley, shallot, ghirkin, or capers, according to convenience or taste.

[NOTE.—In last month's issue some receipts appeared which were sent in by a subscriber, one at least of which we have since discovered to have been copied from the *Queen.* We are the last Journal in the world to quote without acknowledgement, and so deem this notice of the fact only just to the Editor of that excellent weekly ladies' newspaper.—ED.]

THE

FOOD JOURNAL.

THE LICENSING ACT.

THE Act of Parliament entitled "The Licensing Act, being an Act for Regulating the Sale of Intoxicating Liquors," comes into operation on the 1st of September next. It enacts that every holder of a license who sells, or allows any person to sell, to be consumed on the premises, any description of spirits to any person apparently under the age of sixteen, and not being a traveller or lodger, shall be liable to a penalty not exceeding 20*s.* for the first offence, and not exceeding 40*s.* for the second and any subsequent offence.

Adulteration, or at least such adulteration as may be comprised under the term "deleterious ingredient," is punished as follows:—Every person who knowingly sells, or keeps or exposes for sale, any intoxicating liquor mixed with any deleterious ingredient, shall be liable for the first offence to a penalty not exceeding 20*l.*, or to imprisonment for a term not exceeding one month, with or without hard labour; and for the second, and any subsequent offence, to a penalty not exceeding 100*l.*, or to imprisonment for a term not exceeding three months, with or without hard labour, and to be declared to be a disqualified person for a period of not less than two years nor exceeding ten years, and shall also, in the case of the first, as well as any subsequent offence, forfeit all adulterated liquor in his possession, with the vessels containing the same. Where the person so convicted is a licensed person, he shall further, in the case of a second or any subsequent offence, be liable to forfeit his license, and the premises in respect of which such license is granted shall be liable to be declared to be disqualified premises for a period of not less than two years nor exceeding five years. If the court does not forfeit the license of a person convicted under this section, such conviction shall be recorded on his license. When a licensed person is convicted of any offence under this section, he shall affix, at such part or parts of the premises as may be prescribed by a public-house inspector under this Act, a placard stating his conviction, of such

size and form, and printed with such letters, and containing such particulars, as such inspector shall prescribe, and shall keep the same affixed during two weeks after the same is first affixed; and if he fails to comply with the provisions of this section with respect to affixing or keeping affixed such placard, or defaces or allows such placard to be defaced, or if the same is defaced, and he fails forthwith to renew the same, he shall be liable to a penalty not exceeding 40*s.* for every day on which the same is not so affixed and undefaced, and such inspector as aforesaid, or any public constable, may affix or reaffix such placard during the said two weeks, or such further time as may be directed by a court of summary jurisdiction.

Arrangement is made for public-house inspectors or officers of inland revenue, procuring samples from stock; and repeated convictions are punished as follows:—If any licensed person on whose license two convictions for offences under this Act have been recorded is convicted of any offence which is directed by this Act to be recorded on his license, the following consequences shall ensue—that is to say: 1, the license of such licensed person shall be forfeited, and he shall be disqualified for a term of five years from the date of such third conviction from holding any license; and, 2, the premises in respect of which his license was granted shall be disqualified from receiving any license for a term of two years from the date of such third conviction.

A conviction for any offence under this Act shall not after five years from the date of such conviction be receivable in evidence against any person for the purpose of subjecting him to an increased penalty.

The first schedule of the definition and repeal clauses gives as the list of deleterious ingredients: coculus indicus, copperas, opium, Indian hemp, strychnine, tobacco, darnel seed, extract of logwood, salts of zinc or lead, alum, and any extract or compound of any of the above ingredients.

Unjust Weights and Measures in Dublin.—In the Dublin Lord Mayor's Court recently, Thomas Mulhall, provision dealer, was fined 50*s.* and costs for using a beam five ounces out of balance; Patrick O'Neill, for using an incorrect measure in delivering milk, was fined 3*l.* and costs; Patrick Reilly, dairyman, was fined 40*s.* for using short measures; Mary Reilly, a victualler, for using incorrect weights and scales, was fined 4*l.*; and John Behan, for using incorrect measures for selling milk, was fined 40*s.* His worship remarked that these were some of the worst cases that had come before him. He had commenced with small fines, in the hope that they would prevent fraud, but he found matters almost as bad as ever, and he was therefore determined to try the effect of more vere punishment.

A NATIONAL REGISTRATION OF SICKNESS.

No. II.

The advantages, to the Central Authority and to the Government, of a National Registration of Sickness have been briefly considered in a former number of the *Journal.*

As a basis for sanitary legislation, as an indication for interference on the part of the Central Authority in local sanitary affairs, as a test of the health conditions of the whole country, as well as of its separate parts, no mass of information could bear comparison with that which would result from a well ordered registration of diseases. In the present paper I propose to say a few words on the local advantages of such a chronicle to ourselves, as individuals, as members of a community, or as local authorities responsible for the public health; also to the medical man as a guide to practice, or as a basis for scientific deductions.

As far as "health authority" is concerned, there is no more crying want in our large towns, and even in country districts, than some mode of tracking the inroads of disease, and ascertaining the bounds within which its influence is felt. The death register is now the sole mentor accessible to our local authorities, and it is often disregarded when most significant. A single death from small-pox or scarlet fever looks so innocent—such a little blot on the sanitary escutcheon—yet it may mean fifteen or sixteen cases of the disease, with weeks of suffering and months of impaired health to bread-winners in the lower strata of life, increased pauperism and increased local taxation; it may mean the firm grip and the planted foot of an epidemic, with infinite capacity to riot and maim and kill. It certainly does tell of lost time and lost opportunities, which only a registration of sickness could have enabled us at once to note and turn to good account.

But this is not only the case with epidemics, it applies with equal force to diseases non-fatal, as they are called, but which kill slowly by sapping the springs of life and disabling for labour and self-support. Familiarity has here bred contempt; and the evils of adulteration in food or drink, of bad air, of contaminated water, of dirt and starvation, too prevalent apparently to arrest attention—

too universally distributed to allow a remedy to be applied, pass almost unnoticed under the eyes of our sanitary rulers; yet it is certain that a registration of sickness would not only point out many sources of danger hitherto unsuspected in our midst, but would in many cases enable us to localise and map out the boundaries of certain classes of disease. A single illustration will be as good as a thousand to show the difficulties which now lie in the way of the simplest investigation into the origin of disease.

The laborious inquiries of Dr. Edward Ballard into a localised outbreak of typhoid fever in Islington during the months of July and August, 1870, will be fresh in the memories of some of my readers. "I have no means," he says, "of knowing all the cases that happened in the parish which were not fatal, but I have a record of attack of the occupants of forty-one houses and sixty individuals. *The fatal cases are all I can enumerate with certainty.* The reason of this is that, whereas under the special circumstances of the enquiry, private practitioners kindly furnished me with lists of cases they attended in the district specially invaded—so generally, that I believe there can have occurred but very few cases which have not been brought to my knowledge—I am under no such advantage as respects the rest of the parish."*

The fever was, as we know, traced to the use of impure milk; but at what an expenditure of time, and trouble, and untiring energy! With a registration of sickness, the facts thus laboriously collected would be obtained with ease, and there would be a reasonable hope that the sources of evil which lie so thickly around us would be more frequently detected and brought to light. Of course, there are Mrs. Grundies who tell us that to publish anything so horrid as fever statistics would cause a panic, and perhaps empty some of our fashionable towns; but we have the assurance of Dr. Ransome that the reverse is the case at Manchester, where the weekly fever roll, published in the local press, proves an antidote to unreasoning panic, for it unmasks the lurking danger and tracks it home, where it is promptly and efficiently dealt with by the sanitary police.

But I have said that we are interested as individuals in a national registration of sickness. Rumour is busy, as we know to our cost and perplexity each summer, with the fair fame of our favourite watering-places, each being only too anxious to point out a flaw in its rival's escutcheon: one is, or has been, or is likely to be, the

* "Paper read before Assoc. Med. Officers of Health." London, 1871.

prey of scarlatina—another, of measles—a third of typhoid. What peace and comfort would it not give to the mind of paterfamilias, bent on a holiday, if he could bring suspicion and idle report to the test of facts and figures. He would not then run the risk of being frightened from a comfortable home, as many now are, by the rumour of a few infectious cases round him, and of flying with wife and children to lodgings at some seaside place where an epidemic is raging with unwonted vigour. Again some check would be put upon the rash indifference of those who, from ignorance, self-interest, or folly, ignore the dangers of infection, and take no precautions against it.

Clothes would not be cut out, as I have seen them, with scarlatina patients crawling over the broadcloth; daily papers would not be folded and sent out while the scarlatina scales were dropping from the folders' hands, if such offences could be tracked home, and if a few of the most culpable could be brought to justice. We should less often hear of the spontaneous origin of infections if a registration of sickness made it possible to trace the true sequence of disease.

Suppose we are rheumatic or consumptive, it must interest us to know whether we are living in a rheumatic or a consumptive centre—facts which a registration of sickness would tell us far more accurately than the elaborate charts of Dr. Haviland, which are based on the registration of deaths. Lastly, to the medical man, and, through him, indirectly to each of us, a registration of disease would be of the utmost service. It would enable him at once to make himself acquainted with the sanitary features of every town and district of England, instead of acquiring, as he now does, by a long and painful experience, the characteristics of the one, and that only, in which he happens to reside. True sanitary maps would become possible, and would form the basis of all advice as to change of locality in health and disease.

Many interesting problems in medicine might be solved by a registration which should include non-fatal disease, as well as "cause of death." "A return," says Dr. Edward Morgan, of Manchester, in an admirable paper read before the Social Science Congress at Sheffield in 1865, "with a summary drawn up by the honorary secretary, is published at the end of the week, and inserted in the daily papers. In this manner the very first outbreak of an epidemic and the quarter in which it may appear are speedily noted; while the amount of sickness which prevails among a population of nearly half a million may be read at a glance, on the intensity which some of the more formidable diseases assume during different epidemics, and on the localities they select as their most congenial haunts, much interest-

ing information is accumulating in these returns, the more interesting from the little attention these questions have hitherto received."*

A comparison of the sickness in Marylebone and Manchester—a comparison which was only rendered possible by private efforts for the registration of disease in those places—brought out the significant fact that "while diarrhœa is invariably more general in the metropolitan parish of Marylebone, bronchitis and kindred affections of the chest predominate in the north. The impurity of the water distributed by the metropolitan water companies, as compared with the Manchester supply, points to this important necessary of life as the probable cause of alimentary disturbance, while the bronchial visitation with which Manchester is affected seems referable either to more trying climatic influences, or to the more extensive contamination of the air by products of combustion."†

There are diseases of which we know nothing statistically—diseases which disable and pauperise without actually terminating in death. They may be preventible at their onset; they may be, some (as ague) we know to be, strictly localised in their influence; but a registration of sickness will tell us far more about them than we have hitherto known; and it is not impossible that new laws may be discovered determining the destinies and the lives of untold numbers. Further illustrations could easily be given of the advantages to be derived from a registration of sickness, but enough has been said to prove that these advantages are not simply central, that others besides the Government and the central sanitary authorities are deeply interested in them, and that local health authorities, medical practitioners, and private individuals will reap benefits, direct as well as indirect, from so useful a measure. It is important to bear these facts in mind when we come to consider, as I propose to do in a future paper, the practical machinery for carrying out a national record of disease.

Edward T. Wilson.

* "The Danger of Deterioration of Race from the too Rapid Increase of Great Cities." By T. S. Morgan, M.D., Oxon.

† *Ibid.*

Contents of a Newry Provision Shop.—Town Inspector Morrison, of Newry, recently seized about 20*l.* worth of diseased pork in an eating-house in that town, kept by a Mrs. Murray. The meat, including a number of putrid pigs' feet, was in such a state that the effluvia was most offensive even to persons passing the door, while in the house and yard the smell was overpowering. Mr. J. J. Hagan, J.P., ordered the pork to be destroyed, and fined Mrs. Murray 3*l.*

RECENT FRENCH BANQUETS.

THE *menus* of carefully arranged Parisian dinners, especially when given as early as possible so as still to be in season, which is later in England than in France, are always welcome to *gourmets* and *chefs*, so, without further prelude, we subjoin the bills of fare of two remarkable banquets which have recently taken place.

The first of these was given by a Committee of the National Assembly to its President, the Duc d'Audiffret Pasquier; and the guests numbered one hundred.

MENU.

POTAGES.
Bisque d'écrevisses, Consommé de volaille aux croûtes grillées.

HORS-D'ŒUVRE.
Petits pâtés chauds.

RELEVÉS.
Saumons, sauce génevoise.
Turbots, sauce hollandaise.
Filets de bœuf à la Richelieu.

ENTRÉES.
Cannetons nouveaux aux petits pois.
Côtelettes d'agneau à la royale.
Aspic de foie gras en Belle-Vue.
Sorbets.

RÔTS.
Poulardes truffées, sauce Périgeux.
Salade. Jambon d'York à la gelée.

ENTREMETS.
Haricots verts nouveaux à l'anglaise.
Asperges en branches.
Turbans d'ananas au marasquin.

GLACES.
Bombes, fraises et vanille.

DESSERT.

VINS.
Madère, Sauterne, Bordeaux en caraffe,
Château-Laffitte, Volnay,
Champagne frappé.

CAFÉ ET LIQUEURS.

The second banquet was given by Victor Hugo to the director and company of the Odéon, and the friends whom the author of "Ruy-Blas" had met at the first representation of that admirable play, since the fall of the Empire. The number of guests was sixty, and included many names known in the gastronomic, as well as in the literary world. The host sat between Madame Lambquin and Mdlle. Sarah Bernardt, and amongst the company were Théophile Gautier, Saint-Victor, Arsène Houssaye, Vacquerie, Armand Gouzien, Louis Jourdan, Mélingue, Meurice, Geoffroy, Ernest Blum, Ulbach, Pierre Berton, and many more writers and actors.

MENU.

POTAGES.
Comtesse, Brunoise, Bisque.

HORS D'ŒUVRE.
Crevettes.

RELEVÉS.
Truites saumonées, sauce vénitienne.
Présalé de Béhague à la Richelieu.

ENTRÉES.
Canetons de Rouen aux oranges.
Ortolans à la Marion Delorme.
Sorbets au kirsch.

ROTS.
Dindonneaux et cailles.

ENTREMETS.
Salade de légumes à la Dauphine.
Artichauts à l'Espagnole.
Pois de Paris à la bonne femme.
Buissons d'écrevisses au vin du Rhin.
Glaces à la Neubourg, Brioches mousselines.

DESSERT.
Raisin, Noir et Blanc, Prunes, Pêches, Amandes, Cerises, Abricots, Figues, Groseilles, Fraises.

VINS.
Premier Service.
Saint-Emilion en carafes,
Xérès frappé, Sauterne rafraîchi,
Champagne frappé.

Deuxième Service et Dessert.
Pichon-Longueville, Chambertin,
Vins d'Espagne.

To those unacquainted with the French language, or the technicalities of the French cuisine and ménage, should any such exist amongst the readers of the *Food Journal*, two or three words in explanation of the above *menus* may not be unacceptable.

In the first place, *Présalé* stands for *gigot présalé*, or leg of salt-marsh mutton, the only kind of French mutton that deserves the name. Then with respect to the wines, it will be seen that one in each *menu* is *en carafe*, that is to say, placed on the table in decanters, to be drunk with water, while the champagne is in each case *frappé* or iced, as is the sherry in the latter *menu*, while the sauterne is only *rafraîchi*, or moderately cooled.

Mons. A. METZ made an analysis of some beer manufactured at Weisenau, near Mayence, from a mixture of 40 cwt. of malt to 8 cwt. of rice. He found that it contained of

Alcohol	3.65 per cent.	
Sugar	1.63 ,,	7.36 per cent. extract.
Dextrine	5.13 ,,	
Proteids	0·37 ,,	
Inorganic matter, including phosphoric acid	0·22 ,,	
Difference	0·01 ,,	

Compared with an average resulting from the examination of 31 different kinds of Bavarian beer by Mons. C. Prandtl, it will be seen that the amount of alcohol is about the same; but the total amount of extract, and especially the quantity of sugar, exceeds that of any of the Bavarian kinds. Mons. C. Prandtl found in Bavarian beer—

	On the average.	Maximum.	Minimum.
Alcohol	3·55 per cent.	3·98 per cent.	3·23 per cent.
Total Extract	6·07 ,,	6·61 ,,	5·42 ,,
Sugar	1·08 ,,	1·38 ,,	0·82 ,,

This rice beer is exceedingly clear and light: it effervesces, and has a peculiarly mild taste.

SHETLAND: ITS MANNERS AND DIET.

Part II.

Fisheries.

The main occupation of the Shetlanders, and that in which almost every member of the community is interested, is fishing. The sea is the great storehouse from which the wants of all are to be supplied. The fisheries may be divided into two classes—the one comprising the Greenland whale fisheries, the seal fishery, and the Faroe cod fishery; the other embracing the fishings carried on around the Shetland coasts. The Greenland and other distant fisheries are of great importance to the country, as many of the merchants have large sums embarked in them, and they give employment to many persons who might find it difficult to procure it otherwise. The whaling fleet arrives at Lerwick about February or March from the south on its way to the north, and after the season is over returns again about the middle or end of August. During the period of its stay at Lerwick there is great stir and excitement in the town, from the influx of men from all parts of the country seeking employment.

The home fishing, or that which is carried on around the coasts of Shetland, may be said to commence in the spring. The spring fishery is called the "Little Haaf." The boats do not go so far out to sea as at a later period of the season, and the quantity of fish taken is not so great. It is also apt to be interrupted by the necessity of preparing the land for the crops, as well as by the weather, which is never to be depended on at that season. The chief fishing time is when the *haaf*, or deep-sea fishing, begins—the great event of the year. The welfare of the country depends on this, and when it fails there is nothing but ruin and suffering for all. Going to the *haaf* is an era in the life of every young Shetlander, and his first voyage is something like the transition from boyhood to manhood—an entering upon the sterner duties of life. The *haaf* begins about the middle of May, and lasts for twelve or thirteen weeks, commonly ending about the fourteenth or fifteenth of August. The fishing is sometimes carried on in sloops, or small decked vessels, but the almost universal practice is to use open boats, of Norwegian build, about 20 ft. long, with a large lug-shaped

square sail. The crew consists of six persons, four of whom are owners of the boat in equal shares, and the other two are lads hired as servants, their wages, however, varying according to the price and quantity of the fish taken. In preparing to go to the *haaf*, the first thing done is to remove the larger boats to a *skerry*, or small uninhabited isle, in order to have a more convenient point to start from in setting out for the fishing ground. On this skerry there are huts built for the accommodation of the fishermen, in which they sleep on their return from each voyage. They leave their own homes on Monday morning, and return again, weather permitting, on Friday night or Saturday. They generally continue to go to the far *haaf*, as they call their distant fishing ground, twice each week, if circumstances will allow; and they are often as far as fifty or sixty miles from land. They fish with lines, and reckon herring to be the best bait, as they are never so successful as when these abound. The fish captured are chiefly cod and ling, but also saithe, which is the sillock in its third year, or at full maturity, and torsk. Small sharks and dog-fish are often troublesome at the *haaf*, breaking the lines and devouring the fish off the hooks. The fish caught are either "gypped"—*i.e.* gutted and split—at the skerry, or are taken to the home station, where they are at once put through the process of salting and curing. This work gives employment to great numbers of women and boys. The quantity of fish taken by each boat varies according to circumstances, but it ranges from five or six tons up to sixteen or seventeen, and sometimes even higher.

As soon as the cod fishery, or *haaf-fishing*, terminates, the herring fishery begins. The same boats are used, but the crews are not always the same. This fishery lasts till the beginning of October. After this, attention is directed to the sillocks, or young coal fish (*Gadus carbonarius*), which are much sought after for their oil. Enormous numbers are taken by means of nets, *pokes*, and drags, and as much as 15*l.* may be gained in this way in a few days. The livers alone yield oil, and most of the rest of the carcase is thrown aside for manure—an unfortunate waste of what might be a valuable food supply. Before the sillock season is over, winter is pretty well advanced, and until the following spring little is done at sea, except on good days, when every boat that can go is sure to be off.

The fishermen receive no money till the month of November in each year, when rents are paid, and there is a general settlement of accounts. After clearing all demands, a man may take home as much as 20*l.* with him, all clear profit from his earnings, and this without taking into account what may be gained by other members

of his family at the making of kelp and the like. A mother and daughter may obtain as much as 15*l.*, by kelp-making alone, in a season. Taking everything into consideration, the lot of the Shetlanders is not an unenviable one, and they are much better off in many respects than the majority of the working classes in Scotland. When they are reduced to great straits, it is often as much owing to their own improvidence as to anything else, and even then the weight of the burden is mostly borne by their landlords.

THE FOOD OF THE PEOPLE.

Every fisherman in Shetland is also a farmer, having five or six acres of ground, the produce of which supplies him with the greater part of the oatmeal he requires for himself and his family, and at the same time with fodder for his cattle. Each patch is cultivated by manual labour, the chief implement used being the *tuiscar*, or native spade, and in the *vore*, or labouring season, every member of the family capable of working, male and female, is pressed into the service. The usual crops are black oats—the light-coloured or Scotch kind, though much better and yielding more meal, not being reckoned so suitable to the climate—beans, potatoes, and turnips. As the Shetlanders sow the same ground year after year without intermission, the soil, naturally poor, soon becomes completely worn out, and they are obliged to recruit its exhausted strength by the imposition of fresh earth. This, which they call *truck*, is brought from the neighbouring *scathold*, or outlying and uncultivated district, with great pains and labour, and is formed into a kind of compost before being used. In consequence of this constant scalping, the ground for a considerable distance around each hamlet is as bare and barren as a stony desert.

The staple article of diet among the Shetlanders is fish, and so fond are they of it that they could eat it at every meal, and never wish a change. What they call the greyfish, or sillock, already alluded to, is the most esteemed. These swarm in countless numbers along the coasts, and whenever weather will permit every spare moment is spent in catching them. It is surprising how a man will sit on the rocks, or in his boat, on a cold winter day, regardless of the piercing winds and driving sleet, till he has filled his "buddie," and so secured the evening's meal and next morning's supply. In cooking these fishes the people boil them with potatoes, as it is supposed that a finer relish is thus imparted to the latter. The piltock, which is the sillock in its second year, is with all classes reckoned a great delicacy, especially when eaten

cold with vinegar. Sillocks and piltocks are used fresh, or sour, or "blawn." The "sour" are semi-putrid, but are much liked notwithstanding. "Blawn" sillocks are those which have been dried for some time in the open air. Before they can be used they must be thoroughly soaked in water, and even then are very insipid. Great quantities of these are regularly prepared by every family for winter consumption, and hung in rows under the roof of their houses. The skate is also in great repute, and in summer it is common to see two or three hung up at every door, drying in the sun. Like the "blawn" sillocks, they need to be thoroughly steeped in water before they can be used. With plenty of butter they are very fine. The larger fish, such as cod and ling, are not much eaten, and the people imagine that they are not so good for the health as the grey-fish; but the chief reason doubtless is that the cod and others mentioned are reckoned the property of the tacksman, and to appropriate them would be little better than theft. Turbot is used in its season, and, among the very poorest, even the dog-fish is used for food, but only in the absence of everything else. The roe of the cod boiled entire is an excellent dish, and the same, mixed with flour, is formed into a paste called "slot," which is eaten fried with grease or suet. The cod is eaten with its own oil, and this dish, which the Shetlanders like very much, is called "fish and gree." Many a hearty meal is made of the heads and livers of the cod, after the fish has been prepared for salting.

In taking their meals, the Shetlanders do not arrange themselves around a table, but each person sits wherever he finds most convenient. The pot, with the potatoes, stands near the fire, and the fish is laid upon a square wooden platter with raised sides, called a "trough," and placed upon a small table. No knives or forks are used, but every one helps himself with his fingers, and holds a bit of fish in one hand and a potato in the other. In every house there is a pig or two, which the family either use for themselves or send to the market. The Shetland native pig is not an attractive specimen of its kind, and its flesh is not the best of pork, the quality by no means being improved by the feeding, which almost always imparts to it a fishy taste. The flesh of fowls is affected in the same way. These last are small, but are very tender when young. Beef and mutton are not extensively used among the lower classes in Shetland, but it is not uncommon for two or three families to join in having a cow killed at Martinmas for their winter's stock of provisions. This was until recently the invariable custom with the better classes,

but now fresh meat can be had all the year round. The beasts intended for slaughter are entirely grass-fed, and generally from ten to twelve years old, at which time they are considered to be in prime condition. The meat is very fine, but shrinks considerably in boiling.

Tea is a favourite beverage with the Shetlanders, and the value of yearly imports is considerably more than the rental of the whole country. With a great many it is as much an article of extravagant dissipation as whisky is in other places. It is drunk without cream or sugar, and generally boiled. Sometimes a piece of lump-sugar is held in the mouth, which sweetens the tea as it is swallowed. The bread eaten with it is oat-cake, which is used in almost every house throughout the isles. Wheaten or bakers' bread has, however, lately begun to come into use, even among the peasantry; but formerly it was a thing scarcely ever seen in any family, and when it was procured it was enjoyed as a great delicacy. The Shetlanders also use oatmeal porridge, but not so much as the lower orders in Scotland. In winter, boiled cabbage, potatoes, and fish are commonly taken at supper.

The Shetlanders are not a drunken people, but although they are all very fond of a glass of spirits at times, they generally contrive to keep within due bounds. Their principal times for rejoicing are *Old* Christmas Day, New Year's Day, *Johnsmas* (St. John's day), and the *foy*, which every boat's crew has at the close of the *haaf* fishery. Even at such times it is very rare that there is much excess of any kind.

Owing to the exceedingly healthy nature of the climate and the temperate lives of the people, many of the Shetlanders attain a great age.

Angus Willins.

Our Imports.—The high price of grain in our markets has tempted foreigners to send here larger quantities than usual this year. The Board of Trade returns for the first four months of the present year state, that our imports of wheat exceed those of last year by over 1,000,000 cwts.; those of barley have risen from 2,000,000 cwts. to 5,000,000; of oats, from 1,400,000 to 2,400,000; and of Indian corn, from 2,900,000 to over 5,000,000 cwts. The provision trade has also received increased supplies. Our imports of bacon have risen from 400,000 cwts. in 1871, to over 900,000 in 1872; and there has been a large increase in preserved meats, rice, sugar, and wine. The Indian plantations have been supplying us with more tea. On the other hand there has been a remarkable diminution in the imports of unmanufactured tobacco, cotton, and raw silk.

Export of Beer.—The declared value of beer exported from the United Kingdom during the year ending October 1, 1871, was £1,811,076.

DINNER IN THE HEART OF THE CITY.

It has always been acknowledged that an Englishman's heart lies near to his stomach, and it must be admitted that the human anatomy differs very little in this respect, no matter to what particular nationality it may belong.

Having accepted the rule as applying to individual instances, it is only reasonable to expect that the same characteristic will be presented in the aggregate; and, therefore, when we are taken, or go without being taken, to the heart of the City, or, in a careless stroll within the civic precincts, lose ourselves among its multifarious arteries, we not unnaturally connect the locality with that hearty eating and drinking for which London and its denizens have, since remote ages, been famous.

Perhaps few neighbourhoods are so suggestive of this rare old fashion as the ancient quarter of Midchepe, as it once was called—the Cheapside of the present day. This still remains the centre of civic life, as it was more than three centuries ago, when Raleigh founded the club of wits and statesmen at the Mermaid Tavern; and Shakespeare, Ben Jonson, Beaumont, Fletcher, and a score of bright particular stars came east of Temple Bar to bring the light of mirth and intellect to appreciative burgesses. There were, at that time, various houses of entertainment in the City, as well as at the western end of London. The Boar's Head in Eastcheap had a reputation as wide as that of the Mermaid; and at the Devil Tavern, by Temple Bar, Ben Jonson had established his celebrated Apollo Club, whereof the rules, "Leges Conviviales," were until lately, even if they are not still, preserved in the little room over the City gate, just as they were taken down from the chimney-piece of the club, when the old assembly of wits was dispersed and the building itself disappeared before "improvements." Later on, that is to say nearly a century later, the Mohocks, the Scourers, and the Beaux had their meeting places, such as the Rose in Covent Garden, where old Pepys, between the acts at the King's Playhouse, went to eat a roast breast of mutton all to himself. Then followed the coffee-houses, whereof the City had its share—queer, dingy old places enough, and associated somehow with the era of bubble companies. The taverns continued with but little alteration long after another century had

elapsed and Dr. Johnson had immortalised Fleet Street; but merchants still lived in the upper storeys of their great, gaunt houses, whereof the ground floors were offices, and suburbs, which are now a part of London, were rustic places, only reached by stage coaches running at stated hours to take home the daring innovators who had their "little boxes in the country."

Dining in the City in those days meant adjourning from the office to some old coaching inn, where the company in the coffee-room was served with a solid meal at two o'clock, or a more ceremonious banquet at five, the only other places of resort being such taverns as had a space divided into narrow, hard, wooden boxes, where chops and steaks were provided from a gridiron which glowed and sputtered on the fire at the end of the room. There were a few cheap ordinaries for clerks and *employés* at places where "alamode," ox-cheek, or boiled beef was dispensed in close dark retreats, reeking with the odours of cookery and damp sawdust, and faint with the heat of the dusty fire, whence might be heard the perpetual frizzling of doubtful sausages. It was not until at least a quarter of the present century had passed that any remarkable improvement was effected, and then it was not immediately attended with success. Prejudice strengthened by custom had so firmly attached "City men" to the stuffy, close, ill-ventilated, sand-strewn chop-houses and taverns, that "dining rooms" were long regarded as cheap, pretentious establishments, unworthy of the solid respectability of British commerce, while the word "restaurant" called up contemptuous allusions to fricasseed frogs, thin soup, and sour wines—not that cheap claret found its way thither, the "Methuen Treaty" and the protected consumption of port and sherry had taken care of that.

The poor City clerks found out the advantages of one or two of these institutions, however, and though they were of a comparatively humble order, and the quality, price, and method of serving the viands procured for them the name of "slap-bangs," they at least offered more attractive varieties of food, and better accommodation than the frowsy "parlours" of fourth-rate public-houses. The problem was how to dine decently and in a decent room, with a clean knife and fork, a fresh tablecloth, and a fair choice of viands, and yet not pay more than a shilling. Here and there the means were afforded: some proprietors failed by attempting too much, others owed their want of success to parsimony; but the experiment was established, and reform followed with giant strides. One mistake, which became common when fraternity with France had been cemented, was the attempt

to introduce French fashions, French dishes, and French cookery into London "restaurants." The name "restaurant" was expressive, inclusive, and, on the whole, attractive; but, it required consummate skill in cookery to entice English palates with French *plats*. The British roast and boiled held, and still holds, its own; and British meat is in itself so excellent that the appreciative Frenchman in London will always be found on the side of the national dishes of England, with a few judicious *entrées* by way of pleasing variety to a special dinner. The more experienced caterers for the public in the City soon made good use of this discovery, and the result was that they succeeded, first, in establishing a thriving business; secondly, in attracting another class of customers without relinquishing the grand staple of their trade—the provision for those who dine in the City every day; and, thirdly, by enlarging their premises, and opening rooms even in places where space is reckoned at many pounds a year per square yard.

Of course in the dim old days ladies were never expected to dine in the City, unless they came from the country and were staying at one of the ancient inns, with the doubtful and expensive luxury of a private sitting room. The dear creatures who went on a shopping expedition to St. Paul's Churchyard, were compelled to sustain nature by a sticky and indigestible lunch at a pastry-cook's. The bright, active women of business, who were to be seen as "buyers" about Friday Street, Bread Street, Milk Street, Old Change, Aldersgate, Wood Street, etc., forming the *imperium in imperio*, represented by the "wholesale warehouses," were fain to subsist on buns, sandwiches, and such fancy *snatches* of nourishment as sausage rolls and patties, with a modicum of sweet and fiery sherry; or, if they had visited Paris, and so had grown accustomed to the ease and comfort of the *café*, to brave the staring of many eyes, and too often the suppressed titter of the waiters, by entering one of the few dining rooms and taking a seat at a table.

All that is changed. It is unnecessary to recount how the improvement grew, how large, almost palatial, buildings were successfully devoted to the daily entertainment of visitors, merchants, bankers, buyers, manufacturers, and the great army of clerks and *employés*, with special and distinctive, but not necessarily separate, provision for ladies, who now dine within sound of Bow bells.

[TO BE CONTINUED.]

ON SCHOOL DIETARIES.

IN the neighbourhood of one of our Midland cities is a school for some fifty boys, varying in age from nine or ten to fourteen or fifteen years. During some recent visits to this school, the singular healthiness and heartiness of the boys made me curious to learn exactly how they were fed. The following I ascertained to be the dietary:—

Breakfast (in summer at 8, in winter at 8.30) consists of tea or good strong coffee, with abundance of milk, bread and butter, and cold meat. By way of change, now and then, eggs for a few days together take the place of meat. Before the foregoing, boys who like it have a small basin of bread and milk, or of Scotch porridge made with milk. The milk is new, and comes straight from a farm adjoining the school grounds.

Lunch, at 11.—Each boy has a small fresh roll of bread, or a bun, or a captain's biscuit, and, if weakly, a tumbler of milk or small glass of wine or ale; but, as a rule, nothing is drunk at lunch, dinner, or supper, but pure water.

Dinner, at 1.30, always consists of two courses. (1.) Two kinds of meat, viz., beef and mutton, with not less than two kinds of vegetables, and of these a liberal supply. (2.) Pudding, usually of fruit, fresh or preserved according to season, and always well sweetened. On four days of the week the meat is hot roast; on one day it is hot boiled; on one day steaks, cutlets, or made dishes are substituted for joints; while the Sunday dinner always consists of cold beef, mashed potatoes or salad, and plum pudding. After dinner some ripe fruit, as an orange or some kind of garden fruit, according to the season.

Tea, at 6 p.m.—Tea, bread and butter, varied almost daily either with home-made plum cake, or marmalade or honey. Whenever procurable, some salad herb, such as lettuce, radish, etc., is given at this meal, and always eaten with much relish.

Supper, at 8 p.m. (for senior boys only).—Bread and butter, or bread and cheese, or biscuit, or, where it may seem needed, a tumbler of milk, or glass of beer and a meat sandwich.

No hampers of eatables are allowed to be sent to the boys from their friends, and no shop for the sale of sweets, etc., is allowed or accessible to the boys

This dietary seems to me so exactly what growing boys or girls ought to have, and so often what they do not get, even at their own homes, that it may appropriately serve as the text for a few remarks on the usual dietaries of public and private schools. I will begin by at once stating my belief—as one who was himself at a private and a public school, and who still sees a good deal of school-boys—that either in quality, quantity, variety, or frequency of meals, the dietary of nearly every school I have known is more or less defective.

The usually unvaried breakfast of tea or coffee (and these fluids too often of a miserably thin description), with bread and butter, is a meagre meal for a boy who has to break a twelve hours' fast. It is not enough for the robust, nor varied enough for the delicate. A good basin of bread and mik, or milk porridge, should always be allowed as a substitute for tea or coffee; and the latter, when preferred, should always be accompanied with some little extra, such as a bit of cold meat, or bacon, or an egg—sometimes one, sometimes the other, so as to secure the utmost possible variety. Coffee, by the way, should be of good quality, strong enough to require copious dilution with milk, and not the sloppy decoction of brown paper, which it too often resembles in taste, appearance, and nutritive value.

Nearly all boys want something between breakfast and dinner, about 11 o'clock; and if this something be not provided for them in a wholesome form by the schoolmaster, they will seek to get it, probably in a much less wholesome form, at the school "shop," or in the contents of the "hamper from home." Concerning these two venerable institutions more shall be said presently.

Meat or other food of bad quality is hardly ever put on the table now-a-days in any decent school. Equally rare is any stint in its allowance. The fault of most school dinners is roughness in the cooking and serving, insufficient variety in the form and kind of meat and vegetables, and the too frequent absence of puddings. It will be seen by the above dietary that with very little strain of culinary arrangements meat may be served up in half-a-dozen different forms each week, and if two kinds of it always come to table, ample variety will have been attained. Variety in food is no mere luxury or pampering of appetite. In all cases desirable, in the case of growing boys it is highly so; while in the case of boys with delicate or capricious appetites it becomes an absolute necessity. A certain percentage of such boys will be found in every school—boys who, if denied considerable range of choice in their food, will at least fail to thrive in the midst of plenty.

A boy's chief meal should always consist of two courses, meat and pudding.* Many boys, being small meat eaters, should at least have the chance of "making up" with something further, and good reason can be given why this something should be a well sweetened pudding or tart; if containing fresh or preserved fruit so much the better. All boys as a rule dislike meat fat and leave it on their plates, and it is a barbarous practice to try to make them eat it.† And yet the same fat in a different guise, embodied with flour in a *well cooked* pudding, they as universally like. All boys, again, love sugar and the juices of fresh vegetables or fruits, and it is a grave mistake not to secure a fair proportion of these elements in their daily food. Now a well made fruit pudding or tart combines these several elements in happy proportion and palatable form; and boys' universal liking for this article of diet is simply the practical expression of the physiological truth, that fat and its chemical allies, starch and sugar, together with certain organic acids and salts, are indispensible to the healthy constitution of the blood—in other words to the due building up and maintenance of the fabric of the body.

A boy who has dined at 1 or 1.30 is ready by 6 o'clock for something more than the eternal tea and bread and butter. He keenly relishes at this meal some little variety or addition, such as plain home-made cake, or some preserve, or a bit of whatever salad-herb may be in season. The dietetic value of salad herbs (lettuce, watercress, etc.) to growing boys is out of all proportion to their cost. Where there is a kitchen garden (which every school should have), they practically cost nothing. Where they have to be bought, they need not cost much; and even if they do, they will be worth the price.

Should boys have supper? Up to about twelve years of age they rarely need it, for boys of this age by 9 o'clock are ready for bed, and should be in bed; but from thirteen or fourteen onwards boys much dislike being sent to bed so early, and if they do, say, one-and-a-half or two hours' work after tea, they feel the want of, and ought to have, a light meal between 8 and 9 o'clock.

In the dietary above quoted it will probably excite surprise that no beer or other stimulant is allowed either at dinner or at any

* Boys seldom care for *soup*.

† I was myself at a private school—an average good one in its day—where the rule was enforced that on "pudding days" no boy who had left any fat on his plate should have any pudding. After awhile meat rose in price, and by way of "choking us off" we were made on these said days to eat the pudding before the meat. This was blundering strategy on the master's part, for he had now no hold upon us, and the meat was of course eaten without any fat at all.

other meal or time in the day, except in special cases where a boy's health is thought to require such aid. If proof were needed that boys *may* grow up in the perfection of health and strength without any stimulants whatever, *provided they are liberally fed*, I might point to the splendid physique of the little inmates of this particular school, and invite any one to see how they work and how they play. Where the food is amply sufficient and varied, a boy does not want beer, nay, is better without it; where the food is not so, beer or wine will but imperfectly supplement its shortcomings. With delicate or sickly boys, of course the case is different; they have special needs in respect of stimulants which it would be foolish to ignore.

Another noteworthy point in the arrangements of this school is the veto on all "hampers from home," and the absence of any "shop" for the sale of sweets, etc. These are far from harmless institutions; they are time-honoured abominations which cannot be too strongly condemned. The evil tendencies, at any rate of the latter, are so glaring that its authorised existence is, in my opinion, a blot upon any school. Setting aside the trash eaten, the sickness caused, the morbid appetite and habit of selfish gluttony acquired, and the facilities afforded for the introduction of contraband goods—the money boys often spend at these places is grievous to think of. I can vouch for many a boy, whose parents were weak enough to supply him with almost unlimited pocket-money, having often spent at his school "shop" a weekly sum quite sufficient to feed a poor family. Now, where school meals are abundant enough, varied enough (especially in respect of sugar, starch, and vegetable juices), and frequent enough, there the inmates will have no further craving for cakes, sweets, fruits, etc. But if there be a shortcoming in one or other of these respects, then instinct drives the boys to seek elsewhere those elements of food in which their regular diet is deficient. An authorised "tuck shop," therefore, in connection with a school is *primâ facie* evidence to an outsider, and not uncommonly a tacit admission on the part of the school proprietor, that the diet of the inmates by no means satisfies all their legitimate cravings.

That a scale of diet such as I have here advocated is just about what boys ought to have—*if they are to develope into strong healthy men*—I am satisfied from personal experience and observation. That it is at all likely to meet with the acceptance of schoolmasters generally, I am not simple enough to suppose. It is too violent an innovation on old routine. Nay, even paterfamilias himself will probably pooh-pooh such new-fangled notions of feeding boys like

grown men (especially when he finds they cost more money), forgetting that boys need more and more varied food than men. So-and-so was good enough for his (pater's) boyhood, why wont it do for his son's? But paterfamilias should speak only for himself. The diet of *his* school days sufficed for *him*, thanks probably to his sound constitution, but was it enough for many of his less robust schoolmates? Did any of these in after years fail to grow up strong and healthy men? and, if so, is paterfamilias sure that their "simple," *i.e.*, monotonous and meagre mode of feeding during their years of most active growth had nought to do with their failure?

Just as any system of teaching is a real success in proportion as it adapts itself to the peculiar needs—not of those who are quick and willing, but of those who are slow or averse to learn—so any scale of diet approaches perfection in exact proportion to the provision made, not merely for the average standard of taste and appetite, but for all reasonable deviations therefrom. The daily meals of a school may be abundant and of good quality, still, if they be not more varied than to my certain knowledge they often are, many a boy and girl must fail day after day to get those particular elements of nutrition which they specially require. The result with such boys and girls is that even in the midst of plenty they remain permanently underfed and imperfectly nourished, thus retarding, if not arresting, the due growth and development of their bodies, and strongly favouring the development of any inherited or other constitutional unsoundness lurking within them.

M. D.

THE NEW METROPOLIS WATER ACT.—The new Metropolis Water Act, providing a constant supply, is now in operation. It is the duty of the water companies to see to the proper condition of the fittings of every house, and to enforce the conditions which may be authorized by the Secretary of State. The penalties for defective fittings are decisive and stringent; the defaulter is liable to a fine of 5*l.*, and the companies have power to cut off the supply of water and to report the defaulter to the nuisance authorities. If the provisions of the Act are not complied with as regards fittings, misuse of water, and undue consumption of it, the company supplying the water may, without prejudice to any remedy against the defaulter, cut off the service, and cease to supply water so long as the injury remains or is not remedied; and in every case of so cutting off or ceasing to supply, the company shall, within 24 hours thereafter, give to the nuisance authority, as defined by the Sanitary Act of 1866, notice thereof; and if the fittings are not repaired within the prescribed time the house shall be deemed a nuisance within the meaning of section 11 and sections 12 to 19 inclusive, of the Nuisances Removal Act, 1855, and shall be considered as unfit for human habitation.

CHEAP BUTTER IN MANCHESTER AND SALFORD.

In the spring of the year, butter, as a rule, experiences a decline in price. One is not surprised to see butter marked for sale at fifteen and twelve pence per pound. Perhaps twopence less might pass unchallenged. When, however, an article ticketed "Good Butter—price 6*d*.," or so-and-so's "Prime 4*d*.," heralded by "Great reduction in the price of Butter," printed in four-inch letters, catches the attention of the passer's eye, astonishment is quickly succeeded by doubt.

Both in Manchester and Salford for some time past butters have been offered and obtained a large sale at the above prices. The shops vending such goods are situated in populous localities, and it is evident that the poor are the chief purchasers. Seeing these butters, and being surprised both at the price and appearance of them, my curiosity was excited, and considerable doubt as to their being genuine awakened. A quantity of each was obtained, and as quickly as possible examined. The results reveal a wholesale shame-faced trade of adulteration, with gross falsehood which is certainly alarming, and calls urgently for control. Of this our readers may judge for themselves. The following are results of the examination of these so-called butters:—

	Averages of two Analyses. In 100 parts.	
	No. 1, 4*d*. per lb.	No. 2, 6*d*. per lb.
Fatty Matters	76·4	84·5
Water	15·1	9·0
Common Salt	6·3	3·7
Flour and Sugar	2·1	2·0

Good salt butter contains from 92 to 95 per cent. of fatty matter. Both these mixtures are well mingled and present no cause of suspicion to the eye. No. 1 has a clean butter-cup flower colour; No. 2 is a little paler. Each is acid—they are rancid. The odour of both is rancid and strong. The taste is a peculiar tallowy one. In one case, when tasted, No. 2 caused retching. The flour is wheat flour, and the sugar uncrystallisable (grape). The fatty matter is *not* butter. No. 2 contains no butter at all; in place thereof *tallow*. This 6*d*. article is not butter in any degree; it is simply *adulterated tallow!* The fatty matter in No. 1 is principally tallow, but there is mixed with it some very inferior butter.

We have heard of workmen in manufactories where Russian tallow was used spreading fresh bits of it upon their bread and eating it along with a sprinkling of salt. So used, tallow is not likely to do harm; but a compost of more or less rancid tallow, sour paste, and salt, is most assuredly not wholesome—it is almost poisonous; and when such filthy stuff is sold under the name of butter its field for doing mischief is greatly enlarged.

There can be but one decision. The sale of such imitations of a commonly used article of food should be as strictly prohibited and prevented as decayed vegetables, bad fish, or diseased meat.

Geo. Manley Hopwood, F.C.S.

The Water Supply of Belfast.—An analysis of the water supplied to the inhabitants of Belfast having been published in the *British Medical Journal*, reflecting strongly upon its impurity, the Belfast Water Board have called in the services of Professor Hodges, M.D., the eminent local analyst, who reports as the result of his experiments that one million parts afforded of free ammonia 0·001 parts, and of albuminoid ammonia, 0·09 parts. He is of opinion that, though the water contains a small amount of nitrogenous organic matter, it may be regarded as remarkably free either from mineral or organic contamination. By filtration the vegetable (peaty) matters, which after rains render it turbid, might be completely removed, and the amount of nitrogenous matter greatly diminished. He considers the water in the reservoir much superior to that formerly supplied to the town, merely requiring filtration to be rendered of excellent quality, and he says it must be recollected that in nature no water is absolutely pure. This report is accepted as satisfactory, and the question of erecting filters is now receiving attention.

Consumption of Spirits.—The quantity distilled in England in 1871 was 7,739,720 gallons; in Ireland 9,302,253 gallons; in Scotland 13,813,062 gallons; total 30,855,035 gallons. Duty was paid on 25,114,201 gallons at the rate of 10*s.* per gallon, amounting to the sum of £12,557,105 18*s.* 2*d.* England consumed 12,874,732 gallons; Ireland 5,617,435 gallons; and Scotland 5,671,477 gallons; total 24,163,644 gallons.

Genuine Tea.—Surrounded as we are by adulterators of food and drink, and living in the midst of their vile products, it ought to produce at least a refreshing sensation to be told where a really genuine pound of tea can be obtained. Such a species of gratification was ours on examining some samples forwarded the other day by Messrs. Welch & Co., Bush Lane, which seemed unusually good value. We are informed that the Messrs. Welch & Co. import their own tea, and being thus enabled to bridge over the gulf, so to speak, which usually intervenes between the producer and consumer, the latter receives a pure article in prime condition, and at a moderate price. Economical housekeepers, who do not grudge the outlay for a 6-lb. parcel at a time, will no doubt have every reason to rejoice after making such a thrifty investment.

EDIBLE NUTS.

NUTS have always been a favourite article of food among English people of all classes. The humbler orders crack their hazel nuts, Barcelonas, or Brazil nuts, while the "Upper Ten" indulge in their walnuts, which form a fitting accompaniment to the "crusted port," still to be found in the cellars of good old country gentlemen. Nuts appear to have a peculiar revivifying effect on the wit of those who eat them. The country clodhopper, or the youthful Cockney out for a day's "spree," indulges in jests, which grow broader the more freely the nuts are cracked; while the *bon mots* and witticisms of the habitual diner-out grow palpably more brilliant when, the ladies having left the dining-room, he stretches his legs under the mahogany of his hospitable host, and, taking up the crackers, keeps up a well-sustained fire with his jokes and walnuts.

The hazel, with its clusters of ripening nuts, forms a charming feature in our English landscapes, whether clothed in bright spring garments decked with its silken catkins, or when autumn has dyed the leaves of the forests and hedge-rows with its sombre tints. Many towns, villages, and hamlets owe their names to the thickets of hazel bushes formerly growing near them; thus, we have Hazelmere in Surrey, Hazel Grove near Stockport, also Hazelbeach, Hazlehead, Hazlemoor, and Hazelbury, while Hazelwoods, Hazeldales, and Hazelbrooks may be found throughout the land.

The common hazel nut was called by the Romans *Nux Avellana*, from the town of Avellino in Naples, whilst the filbert was called *Nux Pontica*, from its having been brought from Pontus. Loudon, in his magnificent and exhaustive work, "The Trees and Shrubs of Great Britain," divides the hazel nut into five species, of which the *filbert* is distinguished from the others by the long husk, or *full beard*, whence it derives its name. The word hazel is said to have its origin from the Anglo-Saxon derivative *hæsil*, a head-dress. This tree was said by Virgil to be considered to be injurious to the vines from the far-spreading roots drawing off the richness of the soil. To remedy this evil, and also the destruction caused by the goats browsing on the young vine-shoots, the Romans offered up the animals as sacrifices to Bacchus, the god of wine, whilst the hazels were cut down to form spits on which the entrails were

roasted. It is frequently mentioned by old English song-writers In one ballad we learn that—

"If a man has got a wife
Who's a torment to his life,
Let her taste a stick of hazel, that is tough and strong.
In the wand there is a charm,
That will work more good than harm;
For 'twill make a scolding woman hold her tongue."

Whether the charm consisted in a smart personal application of "a stick of hazel," or was of a purely spiritualistic character, like those that might be used at a "manifestation" we know not, though the requirement that it must be "tough and strong" seems to denote that wife-beating is not so modern a recreation of the free Briton as our social reformers would lead us to believe. However that may be, it is certain that a special virtue for the discovery of treasure was supposed by our forefathers to attach to the hazel wand. Thus Evelyn, writing in 1629, says it was used "for riding-switches and diviniatory rods for the detecting and finding out of minerals (at least, if that tradition be no imposture). It is very wonderful, by whatever occult nature the forked stick, so cut and skilfully held, becomes impregnated with those invisible steams and exhalations, as by its spontaneous bending from a horizontal posture to discover not only mines, subterranean treasure, and springs of water, but criminals guilty of murder, etc." This belief in the power of the divining-rod is scarcely yet extinct among the ignorant miners of Cornwall, and the same notions appear to have prevailed extensively in Germany. Sir Walter Scott, in the "Antiquary," introduces one of these divining experts, named Mein Herr Dousterswivel; again, we read "the finding of gold which is under the earth, as of all other mines of metal, is almost miraculous. They cut up a ground hazel of a twelve-month's growth, which divides above into a fork. Holding the one branch in the right hand and the other in the left, not held too slightly or too strictly, when passing over a mine, or any other place where gold or silver is hidden, it will discover the same violently—a common experiment in Germany, not proceeding from any incantation, but a natural sympathy, as iron is attracted by a loadstone."

An ancient herb-doctor thus writes of the hazel nuts:—"Some doe hold that these nuts, and not wallnuts, with figs and rue, was Mithridates'* medicine, effectuall against poysons. The oyle of the nuts is effectuall for the same purposes."

* Mithridates, the celebrated King of Pontus, in Asia Minor.

The hazel is used for fishing rods, hoops, etc., and the gipsies make the framework of their huts from twigs cut from the nearest copse. The chips were formerly highly esteemed as wine-cleansers, bundles of them being put to soak in the wine barrels. Evelyn, after singing the praises and enumerating the uses of the hazel, so as to "exalt this humble and common plant above all the trees of the wood," states that it was employed "for making the walls of one of the first Christian oratories in the world, and particularly in this island, that venerable and sacred fabric at Glastonbury, founded by St. Joseph of Arimathea, which is storied to have been first composed but of a few small hazel rods interwoven about certain stakes driven into the ground."

Large quantities of nuts are imported into this country, but the descriptions known as the Barcelonas are held in the highest repute. Considerably over 200,000 bushels of these nuts are shipped from foreign ports for our consumption.

Mr. W. B. Lord says that "in certain districts of the Continent a very excellent oil, very little inferior to oil of almonds, is made from the kernels of hazel nuts. A kind of chocolate has also been prepared from them, and during periods of scarcity a substitute for bread has been sought in the paste made from ground nuts." Among our peasantry much amusement is afforded in the winter evenings by trial for sweethearts by their aid. A basket or bag of nuts in their husks being produced, each girl was called on to state how many lovers she had, and on the number being given a cluster, or *cramp*, containing a corresponding number was drawn from the mass, and at the name of each one of her admirers a nut was cast into the fire with the accompaniment of the following chant:—

"If you love me, rap and fly;
If you hate me, burn and die."

The chestnut is supposed to derive its Greek appellation *castanea* from a city of that name in Pontus, and was said to have been first introduced into Europe by the Greeks about 504 B.C. Pliny, in speaking of the chestnut, which was probably first brought to Rome in the reign of Tiberius Cæsar, mentions eight species as known to his countrymen. Evelyn highly esteemed the chestnut as an article of diet, and says in his quaint style:—"We give that fruit to our swine in England which is amongst the delicacies of princes in other countries; and being of the larger nut, is a lusty masculine food for rusticks at all times, and of better nourishment for husbandmen than cob and rusty bacon. Yea, or beans to boot. Instead of which, they boyl them in Italy with their bacon, and in Virgil's time they ate them with milk and cheese. The bread of

the flour is exceedingly nutritive. 'Tis a robust food, and makes women well-complexioned, as I have read in a good author. A decoction of the rind of the tree tinctures hair of a golden colour, esteemed a beauty in some countries."

In France, even more than among us, the chestnut is a favourite article of food, and the advent of winter is heralded by the appearance of flocks of *hirondelles d'hiver*, as the Parisians facetiously call the roasted chestnuts which may be purchased, "all hot," at almost every street corner. The French pay great attention to the selection of nuts for the table. The most esteemed of these, says a writer in *Nature and Art*, "is the kind known as *les marrons*, which are said to be to other chestnuts what apples are to ordinary crabs. Among other varieties is the Limousin, which is chiefly noted for the size of its fruit, and the length of time the leaves remain on the trees. The wood chestnut, or *chataigne de bois*, is mainly valuable for its luxuriant production of brushwood, nearly all the coppice wood in the vicinity of Paris being of this kind. Large quantities of chestnuts are used in the neighbourhood of both Périgord and Limousin for the manufacture of a peculiar kind of cake, known as *la galette*, to which the peasantry are particularly partial. A thick species of porridge is also prepared from the chestnut meal, and is in pretty general use."

Chestnuts, when treated like ordinary beet-root, have produced 14 per cent. of sugar, a larger quantity than can be had from most samples of beet; and the trees thrive and flourish where little else could be profitably grown.

Bosc, after referring to this hardy quality of the chestnut, which grows in fissures of rocks where there is apparently very little soil, proceeds:—"Wherever I have seen chestnut trees—and I have seen them in a great many localities—they were never in soils or on surfaces fit for the production of corn. On mountains in France, Switzerland, and Italy, the chestnut begins where the corn leaves off; and in climates suitable for corn the tree is only found on rocky and flinty soils."

The chestnut was much appreciated by the ancients, and Virgil writes:—

> "Ripe apples and soft chestnuts have we there,
> And curd abundant to supply our fare."

And again he writes of the mode, similar to that adopted in our day, by which they were removed from the trees:—

> "Myself will search our planted grounds at home,
> For downy peaches, and the glossy plum,
> And thrash the chestnuts in the neighbouring grove,
> Such as my Amaryllis used to love."

Martial speaks of the reputation enjoyed by Naples for the production of this nut :—

"For chestnuts roasted by a gentle heat,
No city can the learned Naples beat."

Amongst gigantic chestnuts should be noted one that stood on Mount Etna, called the *Castagno di cento Cavalli*, or the chestnut of 100 horses, of which Honel remarks that it is one of the oldest and largest in the world, and obtained its name from Joan of Arragon, while on her journey to Naples. The Queen, on her return from a visit to Mount Etna, was caught in a heavy shower of rain, upon which she, with her train of 100 cavaliers, took shelter under the branches of this tree. According to Loudon, it was still standing in 1770, and, although much decayed, measured the enormous and well-nigh incredible girth of 204 feet! The most remarkable chestnut tree in this country was that known as the Tortworth chestnut, which grew on an estate in Gloucestershire, belonging to Lord Ducie. An etching of this tree was executed in 1772, beneath which the following inscription was placed :—"The east view of the ancient chestnut-tree at Tortworth, in the county of Gloucester, which measures 19 yards in circumference, and is mentioned by Sir Robert Atkins, in the history of that county, as a famous tree in King John's time ; and by Mr. Evelyn, in his 'Sylva,' to have been so remarkable for its magnitude in the reign of King Stephen (1135) as then to be called the Great Chestnut of Tortworth, from which it may reasonably be presumed to have been standing before the Conquest (1066)."

The consumption of chestnuts in this country is very considerable, as, in addition to those of home production, upwards of 125,000 bushels are annually imported. Frequent mention is made of them by our poets and writers. Herrick speaks of the "fired chestnuts;" the lover of Shakspeare will recall the passage in "Macbeth" in which the sailor's wife is spoken of with her lapful of chestnuts; and even the majestic muse of Milton does not disdain to descant on the comforts of his homely fireside :—

"While hisses on my hearth the pulpy pear,
And black'ning chestnuts start and crackle there."

The superstitious natives of some parts of Spain attach a certain virtue to them. Phillips says :—"In Catalonia a custom prevails of people going from house to house on All Saints' Eve, believing that by every chestnut they eat in a different house, they will free a soul from purgatory."

C. R. L.

MARKETS OF THE MONTH.

In the May number of the *Food Journal* I was pleased to be able to state that the price of bread had fallen one farthing in the quartern loaf. I am now sorry to have to write that the reduction was not of long duration, for, about the middle of the month of May, a rise occurred of one farthing per quartern, which left the price the same as before, and no reduction has since taken place. The meat market does not present any variation worthy of notice, except that lamb is slightly cheaper. Good prime best quality meat is as dear as ever, and will be until the stock in the country is equal to what it was three years back, a state of things which I am happy to be able to say is fast becoming accomplished. Pork is cheap: large pork may be bought for 6*d.* per lb.; small pork is dearer, and allow me to say small pork is vastly superior.

Green peas, broad beans, green artichokes, spinach, cabbages, onions, herbs, summer cauliflower, turnips, carrots, radishes, small salad, lettuces, and other summer vegetables are now cheap and abundant, "thick as leaves at Vallambrosa." Forced cucumbers are plentiful; large quantities of small natural ones are being received from Holland. There have already been two or three arrivals of West India pines, but many of the samples are in very inferior condition. In the course of the next few weeks the best samples of the season will arrive, and intending purchasers for preserves or jams should lay in their stock. Lemons and oranges are becoming dearer. Strawberries at 4*d.* per pint are abundant; I think I may say it is a good strawberry year. Green gooseberries are too forward now for tarts, but we can fall back on raspberries and currants. Gooseberries have not been plentiful this season, and currants have suffered much from the frost, but raspberries bid fair to be abundant. In some districts apples will be scarce, but on the whole it is not a bad year for them. Pears and plums of all kinds are very thin, and will be unusually dear. Cherries are tolerably plentiful, and are now fully ripe in many districts, and may be purchased at 6*d.* per lb.

Prices in the sugar market are high, but have been slightly easier lately. Coffee and rice maintain their former prices, but the market is quiet.

Old potatoes now are practically dearer than the new, which are rapidly coming in, and may be purchased for 12*s.* per bushel. Jersey new are making from 9*l.* to 10*l.* per ton. I am sorry to say that the disease has already appeared amongst the potatoes in a few districts; but a warm dry summer will, let us hope, reduce its ravages to a minimum.

Poultry is cheaper: chickens, 2*s.* and 3*s.* each; ducks, 2*s.* to 2*s.* 9*d.* Turkey poults are now in season; but they are an expensive luxury, and do not possess a ghost of the delicate flavour so characteristic of the magnificent Christmas bird. Green geese, from 5*s.* to 8*s.*; quails, 1*s.* 6*d.*; pigeons, 9*d.* to 10*d.* a-piece, will exhaust the list of the productions of Leadenhall and other poultry markets at this season of the year. Eggs are becoming dear again; they are making from 8*s.* to 10*s.* per hundred. Butter also is becoming scarce; good fresh is worth 1*s.* 3*d.* to 1*s.* 5*d.* per lb. Prognostications of the forthcoming game season are conflicting. From some districts favourable reports are received, but others tell of terribly wet weather during the hatching time, and the consequent destruction of the young birds from contact with the damp grass and herbage; but there is yet no certain prediction, and we may still hope for a good season.

Fish at this season is always plentiful and cheap. Lobster salad is the most popular refection at ball suppers in the summer time, and a dressed crab is a feast for any epicure in the month of July. The mackerel fishing on the east coast is nearly over, but large supplies of this fish, packed in ice, arrive from Ireland. These mackerel are monster fellows, and may be bought for 4*d.* each. The purchaser gets plenty for his money—quantity, but alas! not quality. This is *par excellence* the month for whitebait; it is sold at 2*s.* 6*d.* per quart at Billingsgate, but one should only eat it at Blackwall and Greenwich, and to eat it even there in perfection one should dine in the kitchen. Salmon is now very cheap; small fish may be purchased at 1*s.* 2*d.* per lb.; larger fish are slightly dearer.

The cheese market last month was depressed; Stiltons failed to find a purchaser at even as low a price as 1*s.* per lb., but now best qualities are worth 1*s.* 3*d.*

P. L. H.

WE are sorry to hear from Morocco that the almond crops in the districts where the heaviest fall of rain has taken place, especially in the neighbourhood of Ait Aital, are this year a total failure.

NOTES OF THE MONTH.

When a private individual hazards an unguarded statement through the medium of the press, the injury occasioned is usually confined to a comparatively limited sphere. But when a medical gentleman, of some repute, lends himself to the propagation of error, the damage done may prove incalculable. Many articles of food and drink have been unthinkingly traduced in this way; yet hitherto we had hoped good tea was among the number of exemptions. Nevertheless, this beneficent gift to the human race has at length found an enemy in Dr. Aldridge, physician to the North Staffordshire Infirmary, and one of the pottery inspectors acting under the Home Office. He says, "I will take this opportunity of remarking upon the lamentable amount of sickness consequent on the abuse of tea by the women of the working classes. Instead of using tea as an occasional beverage, they make it a principal article of diet, and drink it, usually without milk or sugar, several times a day. Bitter and strong is the agitation at the present period against beer and other intoxicating liquors, as the root of all evils; but in my opinion there is room for agitation against tea-drinking, as carried on in the way spoken of, for I am convinced that a deterioration of health among the working classes, and a lowered vitality in the rising generation are consequences of the abuse of the beverage in question." We are afraid we must altogether dissent from Dr. Aldridge's observations and conclusions, and appeal on behalf of tea to the robust millions of Asia, whose chief and almost only beverage it usually is, and has been, for centuries. The practice of taking sugar and milk with one's tea, scarcely entitles us to claim this as being the only safe and correct method of consuming the fragrant liquid. In fact the custom, as Professor Johnston remarks, probably arose from its being introduced here as a beverage among grown-up people whose tastes were already formed, and who required something to make the bitter infusion palatable. The Chinese, whose experience in this matter is surely worthy of some consideration, scorn both accessories, and we learn from "Lieut. Barnes's Travels in Bokhara" that the Usbek's of Koondoh drink their tea with salt, and sometimes mix it with fat. After each individual has had enough, the leaves from the pot are divided, and are chewed like tobacco. Here at least is a lesson of thrift which we may admire

if we do not imitate it. In like manner the wandering Mongols having rubbed their tea leaves to fine powder boil it with the alkaline steppe-water, which extracts most of the soluble portion, and having added salt, butter, and roasted meal, drink the surprising quantity of sometimes 40 cups a day. Yet of these hardy and untameable Ismaelites no one has hitherto been able to say they evince any deterioration from the original stock, or that the vitality of their children has been lowered in consequence of their inveterate love for tea. As regards the Chinese, who are at once the great tea-producing and tea-consuming race, and who are remarkable for their robust vigour and industry, they drink the decoction every hour of the day, without exception in the manner to which Dr. Aldridge seems to object. Nowhere among beer-drinking, beef-consuming European workmen is it possible to select a body of sturdy labourers capable of undergoing anything like the amount of fatigue in the fields, on the roads, in the workshops, or on the water which the Chinese coolie or boatman, fed upon rice and tea with an occasional fish, cheerfully endures. And this remark applies equally to their women, who, although not usually required to carry heavy loads, ably perform quite as exhausting tasks as the men. In a country subject to sudden fluctuations and extremes of temperature, and whose sanitary arrangements are at variance with every recognised standard of health, we might perhaps look for some lowered vitality and marked deterioration in the race. But unbiassed observation forces a contrary conclusion upon us, and we are prompted to the belief that the diseases prevalent among the Staffordshire potters are to be traced to other well known causes than the excessive use, or even abuse, of tea.

An interesting official account has recently appeared showing the state of our tea consumption during the present century. From it we note that last year the people of Great Britain passed through the pot 123,401,889 lbs. or over 55,090 tons, the duty on which yielded a revenue of 3,085,468*l.* Judged by the population this gives an average of 3 lbs. 15 oz. per annum to each individual.

Since Benjamin Franklin recommended the employment of saw-dust as an economical material for the manufacture of puddings, we are not aware that any other imaginative and ingenious American, until the other day, had experimented successfully on this waste product, or extracted anything from it fit for human consumption. But it appears that the Commissioner of Agriculture in America has, in a recent report, suggested saw-dust for brandy

distillation. He recommends a mixture of pine and fir saw-dust, 9 parts, acidulated with hydrochloric acid, 0.7 parts, boiled under steam pressure with 33.7 parts of water for eleven hours; when 19 per cent. of the mixture will be found converted into grape sugar. After neutralising the acid with lime, yeast is added, and 96 hours fermentation and subsequent distillation, produces 61 quarts of brandy of 50 per cent. strength, free from any taint of turpentine. Henceforth American forests will have acquired the distinction of producing more permanent if less ornamental blossoms, than any at present known in connection with the vegetable kingdom; and the happy proprietors of acres of "murmuring pines" will experience a mingled feeling when they reflect, that, although the lordly stems may support the stars and stripes with credit on the ocean, the distilate from their saw-mills will have liberated another agent for the deterioration of the human race, Yet, on the other hand, should the spirit prove to be of really good quality, the utilisation of a comparatively useless article may come to be the means of saving for food quantities of valuable grain at present worse than wasted.

WHILST sympathising heartily with the hard and impoverished condition of many of our agricultural labourers, we cannot shut our eyes to the fact that they fare better, if not more copiously, than the peasantry of some other European nations. In Dalecarlia in Sweden, as an example, during untoward seasons, the farming population live chiefly on a species of bread made from the tender bark of trees; that yielded by the birch being in common use. Pine-bark-meal mixed with a little rye-flour is considered, at such periods of dearth, luxurious and even dainty fare. It is the endophloeum which is applied to this purpose. After maceration in water, it is ground and baked into thin cakes. These taste somewhat bitter, yet are represented by the traveller James, "to be by no means less palatable than the coarse leaven bread of rye, made with old sour yeast, in use throughout the more fertile parts of Sweden." On such poor diet the peasantry seem to thrive, and it is only when they happen to visit Stockholm, or other large town, and eat of the more generous fare, that they experience a serious illness named the Dalecarlian malady, but which is simply plethora caused by surfeit. On this point our authority relates a curious anecdote:—"A regiment of provincial militia was called to do duty at the capital. Among the rations allowed the men were wheaten bread and a little meat. A violent malady and considerable mortality in the regiment were the con-

sequences of this sudden change of diet, nor did the men recover until an inferior bread, adulterated to the requisite degree of meagreness and indigestibility was served out to them, and the more nutritious parts of their food withdrawn." It may be but poor comfort to tell our agricultural labourers that they fare better than their Swedish brethren; but when their cause is advocated by such an able man as Lord Edmund Fitzmaurice, who spoke on the subject at Lyneham-green a few weeks ago, their wrongs and grievances are far more likely to obtain redress than when trumpeted forth offensively by paid agitators.

BREAD has truly been called the "staff of life," but it seems that the Armenians have found other uses for it than satisfying appetite. Parrot, in his journey to Ararat, tells us that "at meals the table is covered with *losh*, and every one partaking has a whole losh set before him as a napkin, with which, preparatory to eating, he can wipe his mouth. When sour milk is part of the feast, a piece of losh is broken off, and folded up so as to make a spoon; it is then dipped into the bowl, and so milk and losh are swallowed together." The losh is a thin cake rolled out of weakly fermented dough, which being plastered against the inside of the heated oven is baked in two or three minutes.

THE adulteration of coffee, which has so often been alluded to and condemned in the *Food Journal*, and the inevitable deterioration produced on the public taste by familiarity with the sophisticated article, have at length aroused the Ceylon Planters to action. They have long watched with dismay the gradual decrease in the home consumption of the fragrant bean, and have recently embodied their observations in a memorial addressed to the House of Commons. The document prays that, "as an act of justice to them as producers, as an act of justice to the British consumer, in the interest of all that is honest and right, such legal measures may be adopted as will effectually check, among the traders of the United Kingdom, the widely prevalent, nay almost universal, practice of mixing and adulterating coffee with chicory and other deleterious substances." It appears that the year 1847 stands conspicuous on the Ceylon calendar, on account of its having seen the largest consumption of coffee in Great Britain of any twelve months before or since; the quantity having been 37,472,153 lbs. In 1850, adulteration being in full swing and no prohibitory edicts in force, the consumption fell to 31,226,840 lbs., and only recovered to 32,564,194 lbs. the following year on account of a

reduction of duty. Another year of agitation and remonstrance resulted in the issue of a Treasury order, prohibiting the sale of chicory or of a mixture of coffee and chicory. An immediate increase in consumption occured, reaching, in 1854, 37,471,014 lbs., but which was checked by an extra duty levied on account of the Russian war, which decreased the consumption to 35,500,000 lbs. The rescinding of the Treasury order of 1853 dealt the article a crushing blow, so that in 1863 the consumption had dropped to 33,000,000 lbs., to 31,589,597 lbs. in 1864, and to 29,108,932 lbs. in 1869. Apparently, it is now only a matter of a few years, which a simple sum in proportion would readily show, when pure coffee shall have ceased to be used in this country at all, and its place be occupied by an interesting brown subterfuge composed of chicory, "black jack," sawdust, roasted bread, baked horse's liver, and Venetian red. Well may the memorialists say that in the case of coffee, "as of many other articles of food, adulteration has become so prevalent as to make the genuine article unknown," and to complain that "for quarter of a century past the market of Great Britain has been more than half closed to them by reason of the dishonest practices of their own countrymen." Under such circumstances, it is no wonder that the news of the recent reduction of the coffee duties should have been received with jubilant rejoicing in Ceylon, where the difference in favour of the planter this boon will produce is estimated at about two guineas per acre per crop. While trusting that their expectations may be more than realised, we fear the foolish rescinding of the duty on chicory at the same time may leave the grievance very much where it was, and that the financial relief will prove but temporary, unless, indeed, the planter's memorial has the effect of producing such legal enactments as may effectually crush all future attempts at adulteration.

AT a recent meeting at Shanghai of the North China branch of the Royal Asiatic Society, Dr. Macgowan read a paper on the "Mutton Wine of the Mongols." This liquid is famous among the Tartars for its strength and restorative powers, but is represented as being hardly suitable for the European market on account of its hue, and from possessing an odour resembling a mixture of bad claret and turpentine. How little did the promulgator of this opinion dream of the depths of degradation into which our habitual spirit drinkers have fallen. Not suitable for the European market! However peculiar its colour, taste, smell, and source from which it may be obtained, it cannot but contrast favourably

with the vile Irish liquid alluded to in our last month's "Notes." Nor can we conceive of its being nearly so repulsive as a drink possessing the ominous name of "Finish," the vendors of which seem to have repeatedly figured at the Glasgow police-courts. "Finish," is neither more nor less than strong methylated spirit of wine, the sale of which as a beverage is forbidden by law, and which is so atrociously bitter and pungent that it is difficult to conceive of any human throat leathery enough to endure it. It appears that when the Channel Fleet last visited the Clyde some 200 bottles of "finish" were seized after being smuggled on board the ships of war; one of the delinquents being an Irishman who had brought the poison all the way from Belfast for poor Jack's especial delectation.

Cheap bread being contingent on cheap flour, any improved process which facilitates the production of the latter must become interesting, sooner or later, to the great mass of our teeming population. It appears that Mr. Carr, of Bristol, has contrived an arrangement of iron cages containing revolving radii, driven at the rate of 400 revolutions a minute, which almost instantaneously reduces the wheat to powder. It is claimed for this novelty that whilst the actual quantity of flour yielded from a given weight of wheat is the same as by the mill-stone process, the quality is much superior, the saving of time enormous, and the bread made from such flour remarkable for its lightness and good keeping qualities. *Chambers's Journal*, in alluding to this important improvement, says:—"Two mills of the construction described have been in work at Edinburgh more than a year. Each one disintegrates 20 quarters, or 160 bushels of wheat an hour, as much as could be produced by 27 pair of ordinary millstones in full work. And in actual practice the difference in value on 68 sacks of flour is 5½ per cent. in favour of the new mill, which, at the rate of 20 quarters an hour, would produce a large sum in the course of a year."

If Captain Huyshe, of the Rifle Brigade, one of the officers of the Red River Expedition, had never done anything to merit special mention before, he certainly deserves the thanks of every right minded person now for his little book detailing that arduous undertaking. It appears that in the spring of 1870 twelve hundred men and officers were despatched from Toronto to quell a rebellion which had broken out in the Red River Settlement, a remote spot nearly 1200 miles distant from their starting point. The hardships and fatigue they endured, and the difficulties surmounted, read

more like the pages of a romance than a narrative of actual events. The scale of diet on which all this labour was successfully performed was per day as follows:—1 lb. biscuit, 1 lb. salt pork, 1 oz. tea, 2 oz. sugar, one-third of a pint of beans, or a quarter of a pound of preserved potatoes, and no malt or spirituous liquors whatever. "The meat ration," Captain Huyshe truly says, "was undoubtedly rather meagre for men doing such hard work, and one pound and a half per day would not have been too much. But as the troops had to pass through a dreary wilderness of rocks, trees, and water, where no supplies of any description (except a few fish) could be procured, and as every ounce of food had to be carried on their own backs, an addition to the meat ration would have caused a very considerable addition to the weight to be carried over the portages, and therefore a delay to the expedition. The men were constantly wet through, wet sometimes for days together, thoroughly done up by the severe labour of rowing, poling, tracking, and portaging; yet they were always well and cheery, and never seemed to feel the absence of spirituous liquors. Throughout the expedition the absence of spirituous liquors was marked by an almost total absence of crime, as well as by the wonderful good health and spirits of the men." Testimony of this nature speaks volumes in favour of tea, as compared with the evanescent stimulus applied by spirits or beer in assisting to sustain muscular exertion and health under circumstances of exceptional hardship.

"Go to the river," says Howel; "what a pleasure it is to go thereon in the summer-time in a boat or barge, or to go a floundering among the fishermen!" Truly the times must have been almost millennial when the watermen on the Thames varied the monotony of lingering about for a fare at Westminster by taking a cast of the draw-net in mid-stream. Happy the simplicity and piscatorial abundance of that period when an angler could take his stand under the arches of the old structure now occupied by Waterloo Bridge, and feel disappointed if half-an-hour's lashing did not reward his efforts with a salmon, or at least a barbel! Stern were the regulations laid down by the "Company of Free Fishermen," who issued restrictions against the "use of eel-spears and wheels, and angle rods with more than two hooks," and that fishermen were not to ply their vocation "nearer London Bridge than the Old Swan on the north bank, and Saint Mary Overies on the south." Unflinching the enactment with penalties which prohibited "any person from bending over any net during the time of flood, whereby both salmons and other kinds of fish may be hindered

from swimming upwards." Gone are both restrictions and the necessity for them, for London now receives its fish from other sources. Yet with all our modern facilities of steamers and railways, it seems a strange contradiction to write that the Metropolitan fish supply appears to be comparatively less now than it was twenty years ago, and yet the export of Cornwall pilchards for last year was the largest on record. Statistics prove that the total weight of fish brought to London by water has declined from 132,004 tons in 1866 to 116,463 tons in 1871; and that the export of pilchards from Truro has advanced from 15,000 hogsheads in 1815 to 45,682 hogsheads last year.

It is at no time agreeable to have a pet prejudice rudely torn into shreds, especially if such prejudice happens to be in favour of some article of food hitherto highly esteemed and believed in for the use of children and invalids. Yet we are now called upon by the German chemist Gustav to dismiss the notion that beef tea and extract of meat are as valuable articles of diet as tea, coffee, &c. Henceforward we are to consider that even the famed Liebig's extract is only valuable on account of its pleasant taste, and because it creates appetite, to a certain extent, by enabling weakly persons to consume a larger quantity of food than they could otherwise accomplish. Another eminent authority, Professor Artus, of Jena, has also recently investigated the subject, and his remarks are entitled to special notice, as, whilst he draws attention to the present defects of meat extracts, he is prepared with a remedy. This consists in dissolving out with cold water from the chopped meat as much of the soluble salts, albumen, gelatine, and creatine as the fluid will take up. The same meat is then treated in a Papin's digestor for an hour, and after the liquor is pressed out and skimmed of its surface fat, is poured off and added to the first cold extract, when the whole is evaporated down to a proper degree of consistence. By this method the whole of the valuable properties of the meat are said to be retained.

Even to those who have succeeded in emancipating themselves from the unfavourable impression produced on their youthful minds by the recollection of the fairy tale in which a black-pudding and an old woman's nose figure conspicuously, this dingy viand is not suggestive of a refined cuisine. Neither would they voluntarily select the celebrated *Melas Zomas*, or black broth of the Spartans, on the discovery of the constituents of which so much classical learning and research have been lavished, as an item of their daily suste-

nance. Julius Pollux, tutor to the Emperor Commodus, says that the latter consisted of blood thickened; and Dr. Lister, in his "Notes to Apicus," supposes that the chief ingredient common to both black-puddings and black-broth was hog's blood. We read "that a citizen of Sybaris, having tasted their fare, declared that it was no longer astonishing to him that the Spartans should be so fearless of death in battle, since anyone in his senses would much sooner die a thousand deaths than continue to exist on such miserable food." Whatever the Lacedæmonian delicacy was composed of, it could scarcely have been a very seductive dish; and, considering that blood, which is so apt to be contaminated by disease, enters so largely into the preparation of our modern black-puddings, consumers of those articles ought to be specially careful in ascertaining their origin and wholesomeness before venturing on their use.

A MARKED, but unfortunate trait, in the character of the average Briton, consists in the fact that he unhesitatingly rejects and repudiates every unaccustomed article of food introduced to his notice, if it happens to be cheap; and the lower in the social scale the individual happens to be, the more strenuous is his opposition. Although preserved Australian beef and mutton have been before the public now for a considerable time, and have even, according to a correspondent of *The Queen*, gained admittance into one of the leading West-end clubs, we wonder on how many working men's tables they appear. If such is the slow progress of a really delicious and cheap preparation, we fear our advocacy of an inexpensive and nourishing German viand can scarcely hope for more favour. Nevertheless, as Food Journalists, it seems to be our duty to make known everything likely to benefit the son of toil as well as his master. Souer Kraut, an efficacious preservative against scurvy, is thus prepared:—When cabbage has arrived at maturity, and is compact and hard, it is divested of its outer leaves, the stalk cut away, and the remainder shred finely and packed in layers in large earthenware pots or barrels. Between each layer salt is sprinkled, along with carraway seeds and juniper berries. When full, the vessels are covered each with a heavy weight, and in a month the contents are fit, after four hours' boiling, for use. After the Souer Kraut is ready for cooking, it will keep sound for years if the stock is always kept carefully covered with brine. With Australian beef as a basis, this as a vegetable, and a little brown bread or potatoes, as accessories, we venture to think that even the poorest might extemporise a good dinner within his means.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

MACKEREL SEASONED.

The subjoined is a tasty method of cooking this fish, and now they are so large and plentiful will be found an agreeable variety from the plain boiled, etc. Have the mackerel thoroughly cleansed, taking out the roes, after which fill with a seasoning composed of the following ingredients:—Parsley, thyme, suet, bread crumbs, a little green lemon peel, grate of nutmeg, pepper and salt, together with the fish roes, all finely chopped and mixed with an egg. Place them in a tin pan in the oven, laying on them a little dripping, and allowing them, in a moderately quick oven, three-quarters of an hour for baking.

ANOTHER MODE OF COOKING MACKEREL.

Another excellent mode of cooking mackerel is to boil them in water containing, say, a wine-glassful of vinegar, adding a small bunch of tarragon or fennel, allspice, and salt. This is particularly suitable for the large mackerel just now in season, which otherwise disagrees with some persons. Another recommendation to this mode is that the dish is equally good cold, as hot, and far superior to ordinary soused mackerel as a supper or summer dish.

RICE RECIPES (THREE STYLES).

1. Place 1 lb. in 3 quarts of boiling water for 20 minutes; skim, and add 1 oz. of hog's lard and salt or allspice; simmer, and cover for half-an-hour, when it will be fit for use, producing 8 lbs. of rice. 2. Place ½ lb. of rice in 3 quarts of skimmed milk; add 2 oz. of treacle or pepper and salt; bake it, to make 4 lbs. of pudding; soak the rice first in water, with or without milk, for several hours. 3. Boil 1 lb. of rice in a pudding-bag, tied loose, to hold five times the quantity, so as to produce 5 lbs., which may be eaten with treacle.

HARD AND SOFT BOILED EGGS.

It is well known that a soft-boiled egg is more easily digested than a hard-boiled one; but the difficulty is in the white, not in the yolk. Experiments have shown that the gastric juice will not act readily on the tough, tenacious structure of firmly-coagulated white of egg, even when cut in pieces as small as peas—or as fine as people usually chew their food—while it acts with facility on the more brittle yolk. To cook eggs so that they will be easily digested, put them into boiling water sufficient to cover them, and let them remain ten or fifteen minutes; keep the water nearly up to the boiling point, but do not let it reach that point. Fresh eggs will cook sooner than old ones, and small ones than large ones. By this process the yolks will be well cooked, while the white does not become tough and hard to digest.

THE

FOOD JOURNAL.

TEA ADULTERATION.

THE City Commissioners of Sewers are again drawing public attention to the spurious and putrid tea imported into London, and the defects in our law respecting the same, in the hope of moving the Government to introduce a Bill into Parliament, which will legalise the seizure and destruction of such tea. The Commissioners are certainly to be commended for their zeal for the public welfare, and in justice to them, we intend in this paper to give an outline of what they have done in the discharge of their duty, and the rebuffs they have met with from different Government bodies, in their endeavours to protect the public from being poisoned with unsound tea. The difficulties which beset them in trying to find out whether the Government had power to aid them in their responsible work might have occurred to some sanitary reforming hero in a sensational novel or serial story, but no person unacquainted with the defective state of the English law on adulteration could have believed, that in the nineteeth century, the Commissioners of Sewers of the City of London had such obstacles thrown in their way in the discharge of their duty as guardians of the health of the inhabitants of the first commercial city in the world.

In the year 1866 the Commissioners were told that 350,000 lbs. of tea, damaged by fire and water, were to be sold by public auction, and that this tea was unfit for human food. Although unable to stop the sale, through a difference of opinion entertained by two chemists of repute as to the unsoundness of the tea, they ordered legal proceedings to be taken against the brokers. Alderman Stone, who heard the case, said he was satisfied the tea was unsound and unwholesome, but he thought, after due consideration, that justice would be satisfied by the exposure, without the imposition of a penalty.

In 1870 tea imported from China, under the name of "Fine

Moning Congou," was reported by the Medical Officer of Health as being putrid, and consequently unfit for human consumption. The leaves were stated to have been rotten from putrefactive decomposition, and the Shanghai correspondent of the *Globe* newspaper, used the following language respecting this particular description of tea:—"The rubbish going forward in the shape of re-dried tea—tea leaves—will astonish you; it is called here Ma-loo mixture; Ma-loo being the name of the street leading to the race-course. Along its sides may be seen heaps of this trash being dried in the sun; dogs and pigs walking through and over it; so beware of tasting any. This novel luxury is said to cost ten taels per picul, duty paid, and several thousand packages have been shipped to foreign countries." A firm of tea-brokers said of it that the large deficiency in the imports of serviceable tea during the season of 1870, was "only brought near our requirements by about seven million pounds of the spurious stinking matter recently sold at public sale at 5½*d.* per lb., and which is likely to recede to the value of former years, say 1¾*d.* to 2½*d.* per lb."

The City Solicitor took proceedings against the vendors of this tea, and they, through their solicitor, contended that as *tea* was not mentioned in the Nuisances Removal Act, and as it could not be deemed either "vegetables" or "food," the magistrate had no jurisdiction in the matter. The magistrate, however, ordered the tea to be destroyed, but granted a case for the Court of Queen's Bench, which, up to the present time, has not been proceeded with.

Many City firms of repute praised the Commissioners for what they had done, and amongst these firms were several tea brokers who, in addition to their praises, referred to the subject in their Tea Market report in the following words:—"The most satisfactory feature of the market which we have to note, is the condemnation by the City authorities of the spurious rubbish which some of the enthusiastic buyers in Shanghai seemed to have thought the trade would have taken as being cheap, forgetting that nastiness is generally associated with cheapness." And in another report it was stated that "the agitation which has been started by Dr. Letheby, for the destruction of the tea, known as Ma-loo mixture, will, we trust, have a beneficial effect in, at all events, stopping further supplies from being sent to this market." These remarks show that the respectable portion of the trade are utterly opposed to the importation of adulterated tea, and that they are also ready to assist the Government or any other authorised body in making regulations for the importation of sound,

wholesome tea. Under these circumstances, it is a question whether the action of the Chinese shippers in sending all kinds of rubbish to this country under the name of "tea" has not been stimulated by the fact that there is no revenue or other law to prevent such importations.

In April, 1871, there was another importation of spurious and unwholesome tea, and the Medical Officer of Health reported that this "tea" consisted of tea-dust and the siftings of tea, and of damaged leaves in a "*putrid*" condition, and that another quantity offered for sale as "scented tea-dust" contained "a large proportion of earthy matter and iron filings." The Commissioners, from past experience, considered they could not legally stop the sale, and consequently this putrid stuff went into consumption. The tea of the same description which remained in bond was at once removed out of the bonded warehouse to a place beyond the jurisdiction of the City authorities.

In consequence of the tea having been removed, the Sanitary Committee applied to the Board of Customs to ask for "information whether the officers of the Customs department are empowered, on due information given them, to seize and destroy such tea, on certificate that the same is unfit for human food." The reply to this inquiry was that "the officers of this revenue (Customs) are not empowered, either on information given to them, or on certificate that the same is unfit for human food, to seize and destroy tea, whether spurious or not."

The contents of this letter will certainly inspire the Chinese shippers with hope and confidence, for they are assured on the highest authority that so long as duty is paid on any rubbish called tea, the Customs will afford every facility for its importation; but importers should be careful to send out instructions to their agents in China that the Ma-loo mixture must not be imported into London, as the sanitary authorities seem determined to do all in their power to prevent the public from being poisoned, although the Government are not in any way particular as to whether the people are poisoned or not, so long as duty is paid on the tea.

After having tried the Customs Commissioners, the Sanitary Committee next applied for assistance to the President of the Board of Trade; but after having had a very courteous reception, the President told them that the Board of Trade had no jurisdiction, and could not consequently afford any help, but that they had better apply to the Chancellor of the Exchequer and state their case, as the Lords of the Treasury might interfere if they deemed the subject a proper one for State interference.

At the interview with the Chancellor of the Exchequer the chairman of the Board of Customs was present, and the Committee were told that the Customs officers could not be entrusted with such powers as were suggested by the deputation, even with the aid of duly qualified inspectors locally appointed; and they were further told "that such powers if used might interfere with the trade of the country injuriously, and have the effect of diverting a large amount of business to other countries." The Chancellor of the Exchequer said that nothing further could be done without an express Act of Parliament, and at the same time informed the deputation that he was of opinion such a Bill was not likely to be passed at present.

A further statement was made in the House of Commons by a member of the Government that this rotten tea could not, in his opinion, be seized when imported, but only when it came into the hands of the tea dealer. It was not stated whether such seizures were to be made by the local sanitary authorities or by the Excise, but from the experience of the last twelve years we should be sanguine indeed to believe that any seizure would be made under Mr. Scholefield's Adulteration Act, and it is quite as unlikely that the Excise would seize it, because as the Government had received the full duty on it the subsequent seizure of it would be unjust.

The Commissioners of Sewers are now trying to get the House of Commons to take up the matter, but whether they are successful or not they certainly deserve the thanks of the country for their zeal for the public good. If the sanitary authorities in every large town in the Kingdom would use their influence with their representatives in Parliament, we should soon have this subject so well ventilated, and consequently so well understood, that we should see a Bill for prohibiting such importations received by the majority of the House of Commons, if not with favour, at least without opposition; and the Commissioners of Sewers would thus get the power to do their duty to the public, which at present they evidently need, but do not possess.*

B. R.

[TO BE CONTINUED.]

* It should be noted that the *Food Journal* has, since its establishment, been ever active in seeking out and exposing adulterated tea. The first of these exposures took place coincidently with those referred to in this article, and they have been continued ever since, many samples having been found out which had apparently escaped the attention of the Commissioners' analyst. The researches of Dr. Muter and the drawings by Mr. Cochran, which appeared in October, 1870, are the most exhaustive which have yet been published on the subject of the "Maloo" and similar low-class teas.—Ed. F. J.

CURRIES.

It was jocosely said of a certain sauce, that it was piquant enough to reconcile a gourmand to a slice of his own father. In the savage islands, where cannibalism is rampant, perhaps some condiment might be necessary to reconcile a loving son to a feast of which the paternal remains constituted a particular dish, but it is doubtful whether any stimulant would whet the appetite of a civilised being sufficiently to make it tolerant of the fare that the barbarian delights in. However, it is quite certain that a well prepared curry will commend almost any description of human food to a healthy stomach and a well educated palate, and it is surprising that we do not see the preparation more frequently on the tables of well-to-do people. The plain fact is, we believe, that our best educated cooks are at fault in their attempts to imitate what they imagine is only to be obtained in perfection in the East Indies. They start with the mistaken theory that a "fowl curry" merely consists in daubing a few legs and wings with turmeric and pepper, and serving up the collection in a bed of Carolina rice. These strange notions are handed from cook to cook, and thus the guests, who are curious about dishes to which they are unaccustomed, conceive a natural dislike to the queer composition, and hesitate to present it at their own homes.

There are two kinds of curries recognised in India. In one the soup or gravy is abundant, the meat swims in a rich, well spiced ragout, and supplies a considerable number of mouths with a very luscious banquet; the other, called "the Madras," is a dry curry, that is to say, meat cut up in small pieces and well saturated with curry stuff, without a single drop of gravy or liquor of any kind being left in the dish. Each is excellent in its way, and, while it gratifies the taste, naturally assists the digestive faculties. Anything may be curried and enjoyed; but, contrary to the prevailing opinion in England, we are told that meats which are not porous or of a high flavour should be eschewed as the accompaniment of curry stuff. Fowl and rabbit, though most commonly used, make the worst curry; the condiment merely reaches the surface of the flesh, which is not sufficiently *prononcée* to impart any additional flavour to the dish. The open grained meats are the best; mutton, young pork, and other tender meat absorb the curry stuff readily. Fish of all kinds, especially cod, prawns, eels, soles, and lobster

are peculiarly acceptable, for, though not susceptible of saturation, they throw out a flavour which materially heightens the quality of the *plât*. In India, greens, eggs, and dry fish are curried, but the two former merely modify the sharpness of the mixture, and the latter renders it sapid at a very moderate cost. But, after all, the secret of a curry's excellence lies in the happy combination of the ingredients, which are varied according to the resources of the cook and the country in which the mixture is prepared. Thus, in India, in addition to the turmeric, people use the white of a cocoa nut scraped into a powder, some slices of a sour mango pounded in a mortar, a chili (capsicum), and an onion shredded and fried. In this country, we use cooking apples, cream, sugar, onions, vinegar, and butter, with the turmeric, forming the combination into a paste which is placed in the stewpan just as the meat begins to imbibe heat. The whole mixture should be thoroughly stirred that every part of the meat may receive its share of the condiment. With well boiled rice and the addition of chutney, meat or fish thus curried may be "set before a king." In the absence of rice, well boiled potatoes and some pickles will be found a very agreeable substitute. Perhaps no other dish, thus served, comprises so many different and delicious qualities; the sweet, the sour, the savoury, the pungent, are all presented in a right royal curry.

So exquisite a dish naturally excites thirst, but there should be no difference of opinion as to the kind of drink which is best adapted to accompany a curry. Wine, spirits, or water are entirely out of the question. The heated tongue and throat will soon discover that a glass of pale ale is the only suitable associate, and it has the double recommendation of mitigating the past and preparing for the future, for no one could fail of following up the refreshing glass with a second helping.

QUI HYE.

PROSECUTION AT BELFAST UNDER THE FISHERY ACT.—At the Belfast Police-court, three carters, in the employ of a carrier of goods for the Northern Counties Railway Company, were recently charged with having 13 boxes of salmon and pollen in their possession in the close season, whereby they were liable to a penalty not exceeding 10*l*. The alleged offence took place so far back as the 13th of January last. The boxes were directed to a person at Birmingham, and it was contended on behalf of the defendants that they had no knowledge of the description of fish in the boxes, as they were simply conveying them in the ordinary course of business. On the other side it was argued that the Act distinctly rendered any person liable, in whose possession the fish was found. It was decided that a case should be made out, in order to have the law adviser's opinion on the point, and the case was again adjourned for a month.

MR. STANSFELD'S PROPOSED PUBLIC HEALTH BILL.

The results of the Royal Sanitary Commission will be small indeed if they are comprised in Mr. Stansfeld's Bill "To Amend the Law Relating to Public Health." When the great questions of Army Re-organisation, and Dis-establishment of the Church in Ireland were disposed of, it was expected that the Government would give its serious consideration to the sanitary wants of the country, and bring forward some comprehensive measure for consolidating and improving the laws relating to public health—a measure worthy of an energetic government, worthy also as an exponent of the knowledge to which the country has attained in sanitary matters. It can scarcely be said that Mr. Stansfeld's Bill fulfils either of these conditions, notwithstanding that some of its provisions are good, and show an appreciation of the difficulties which have hitherto stood in the way of all sanitary effort. Without going minutely into the Bill, which would be impossible in the space at my command, I propose to draw attention to one or two points which seem to be of special importance, and to deserve the attention of all who are interested in the health legislation of the future.

"The general purport of our Report," say the Royal Sanitary Commissioners, "is, that the present fragmentary and confused sanitary legislation should be consolidated, and that the administration of sanitary law should be made uniform, universal, and imperative throughout the kingdom. We propose that all powers requisite for the health of towns and country should in every place be possessed by *one* responsible local authority kept in action, and assisted by a superior authority."—*Royal Sanitary Commissioners' Report*, vol. i., p. 4.

"That there should be one authority for all public health purposes in every place so that no area should be without such an authority, or have more than one."—*Ibid.*, p. 174.

Now, of the two Public Health Bills which have been before the country, that by Sir Charles Adderley—"To Consolidate and Amend the Law"—would seem most nearly to meet the very important proposals which have been quoted above; but unfortunately it consisted of some 450 clauses, and this would seem to be an unpardonable defect in the eyes of our legislators. The Bill, however, was an honest attempt to grapple with the difficulties of an extensive and

pressing question, and if not quite up to general expectation, was at least worthy of better treatment than it received.

Mr. Stansfeld's Bill, leaving consolidation aside, confines itself to amendment of the law, and constitutes, in fact, an additional Sanitary Act.

The first subject to which I would direct attention is the formation of districts. Excluding Scotland, Ireland, and the metropolis, the whole of England is to be divided into sanitary districts—urban and rural—subject to the jurisdiction of urban and rural authorities respectively.

The urban districts would comprise not only boroughs and elective improvement act districts, but also local government districts, whenever and wherever they may be formed, provided they are not wholly contained within a district of a larger area.

The authorities would be as now—the Council, the Improvement Commissioners, or the Local Board.

In the country, the parishes of a Poor Law Union, exclusive of any part included in an urban district, would constitute a rural district under the act, with the guardians of the poor as the sanitary authority. The object here apparently has been to carry out the views of the Sanitary Commission, but in the absence of any provision for placing all the objects of local government under one authority, the result is scarcely satisfactory. Should the Diseases Prevention Act, for instance, be applied to any part of England, the Local Government Board may, by Clause 57 of the Bill, direct the temporary supply of drugs, etc., by the *guardians* of the several unions involved, whilst the duty of providing hospital accommodation and medicines for ordinary epidemics, devolves upon the authority of the district, which, if urban, would not be the guardians. This is one example only of a confusion which now exists, and which would not be removed by Mr. Stansfeld's Bill.

The appointment of a medical officer of health in each district is good, inasmuch as it is rendered compulsory; but a very little consideration will show that the machinery provided in Mr. Stansfeld's Bill for official health inspection is inadequate, and, except from a central and centralising point of view, unworkable to any effective purpose. It is contemplated that in rural districts the district medical officer, with his hands already full of work, should, in the majority of cases, be the local officer of health.

Being called in to cure the squire of gout, he will at the same time be officially bound to inspect his sewers, or report him for turning some of his rubbish into a stream. Could any Poor-law medical officer be reasonably expected to prosecute a guardian?

He cannot be dismissed, it is true, without the sanction of the central authority; but how about his private practice for the sake of which he takes the pittance offered by the guardians of the poor?

"The district medical officer of a union *may*, with the approval of the Local Government Board, be appointed a medical officer of health" (clause 3). Surely it may be doubted whether he would accept the office except to keep out a rival practitioner, or to make a small addition to his hardly-earned income. It has been laid down over and over again, and has become almost an axiom in public health, that no man can combine private practice with the efficient discharge of his duties as an officer of health. As deputies, to report, without the responsibility of action, no body of men could surpass the union medical officers in intelligence and intimate knowledge of the sanitary condition of the country. They want merely a highly skilled, highly educated, medical officer, independent of practice and acquainted with the locality, who would be ready to support them when wavering, to urge them when diffident—an officer who should be directly responsible to the central authority for the statistics and all matters connected with the health management of the district in which he resides. No body of central inspectors, even medical, such as did good service under the Privy Council, could supply the local knowledge and constant intervention which would be required, if Mr. Stansfeld's Bill became law; yet we are nowhere shown that barristers now inspecting for the Local Government Board will not be sent to report on an epidemic of typhus, or an imperfect system of sewerage.

On the subject of consolidation of areas, Mr. Stansfeld has some useful provisions; but here, as in every other portion of the Bill, care has been taken to exclude anything like an intermediate authority between the Central Board and the bodies on which it is to act. The resolutions* of the joint committee of the Social

* "4. That in every county, or part of county, having a separate commission of the peace, there should be constituted an administrative and financial board or court, composed of an equal number of justices of peace and of members elected by the several local authorities, respectively governing the districts, or any parts thereof, situate within such county, with power to exercise, by joint committees, jurisdiction over watershed areas extending beyond a county. 5. That such county boards or courts be empowered to adjust the boundaries of the subordinate and represented districts, subject to the approval of the central authority; to make good any defects of local sanitary administration; to compel (by order, subject to the appeal of the central authority) the execution of sanitary measures; to superintend the construction and care of the roads, drains, and sewers; to control the provision of medical poor relief, workhouses, hospitals, and other institutions

Science Association and the British Medical Association on State Medicine on this and other subjects, have been entirely ignored, while the centralising tendencies ever so conspicuous in the Registrar-General's Department, and in the Medical Department of the Privy Council, have reached a climax which is at once un-English and intolerable.

Inspection, from the Local Government Board as a centre, is to give the initial force to every sanitary movement throughout the country. All local effort is to be cramped and confined, as now under the Poor Law, by constant reference to a London board. It would be difficult to imagine anything more paralysing, anything more fatal, to the sanitary life which now seems awakening in England.

Amongst nuisances, the fouling of streams and of drains is very properly provided against by the most stringent regulations, but in some cases too stringent and minute, we fear, to be of any practical value. No noxious water, for instance, is to be let flow into a stream—no liquid, even, which "exhibits by daylight a distinct colour when a stratum of it one inch deep is placed in a white porcelain or earthenware vessel."

All sewers and drains are to be constructed, provided with means of ventilation, and kept so as to effectually prevent such sewers and drains from being dangerous to health. Surely some of the responsibility should here be thrown on builders who, from ignorance or wilful neglect, permit a defective trap or an unventilated drain to be covered over, when, as experience has often shown, an outbreak of fever or serious illness may be the first intimation to the occupier of an existing defect.

In the proposals on the subject of a registration of sickness, another example is afforded of the centralising tendency of the whole Bill. No particulars are given, except that the Local Government Board may, from time to time, require from all medical officers of health such particulars respecting sickness within their districts as the Local Government Board may think fit (clause 61). This subject, however, will be noticed in a separate article, and

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maintained by the rates; and to appoint one or more highly qualified medical officers of health, whose whole time should be given to the performance of their official duties; as well as surveyors with civil engineering qualifications; the appointment and dismissal of such officers to be subject to the approval of the central authority. 6. That the medical officers of districts for medical relief or dispensary districts, in all places where officers of health are not specially appointed, may be required to act, with proper remuneration, as deputies to the chief officers of health."

need not be dwelt on here. I shall bring these few remarks to a conclusion with a word on hospitals and provision against infectious disease.

By clause 55, every sanitary authority would be bound to provide not only hospital accommodation, drugs, etc., for infectious cases, but a special carriage for their conveyance and service for the disinfection of clothes, etc. No additional powers, however, are given to control the sick, or to insist on their isolation, except by the destruction of bedding, clothes, etc., which have been exposed to infection. Hospitals may be hired for the purpose mentioned above, but there seems no power given to build them or even to assist with a grant their construction by other and independent bodies.

Looking at the Bill generally, it cannot be taken as a fair measure of Mr. Stansfeld's powers, nor can it be considered as more than an instalment of what is expected at his hands. It gives the idea of having been hastily constructed amid the overwhelming business of a department, to stave off, without satisfying, a demand which has become imperative. The confusion in public health legislation will be in no degree lessened, if it be not increased, by the Bill as it stands; much may doubtless be done in committee to modify its most objectionable features and to make it a really useful measure, but nothing short of the consolidation of the public health laws, into one compendious act, will satisfy those whose duties or whose tastes have led them to a study of state medicine and questions of sanitary reform.

A. B.

NOTE.—Since this paper was in print, the House of Commons has gone into Committee on the Bill, or rather on such portion of it as Mr. Stansfeld has elected to retain. All new powers that were to have been obtained are relinquished, with the exception of compulsory appointment of medical officers of health, and that portion only is to be insisted upon which constitutes new local machinery, and distributes powers and responsibilities under existing statutes among those authorities. It would have been better if a Bill of such importance had been introduced when its various provisions could be fully discussed, and not at the close of a busy session when energies are flagging and time is short; but it has been otherwise ordered, and we can only abide the issue.

THERE have been several cases lately on the Continent of poisoning from eating that delicious refection known as Vanilla ice. We have not heard what species of adulteration it is which has led to this deplorable result, but it appears not to be confined to any one country. Therefore we would warn our readers to beware of *Glace* or anything *Glace à la Vanille.*

THE PRESERVING ESTABLISHMENT OF MESSRS. JOHN GILLON & CO., LEITH.

PART III.—CONCLUDED.

THE preservation of vegetables has not hitherto been so important a part of the business of Messrs. J. Gillon & Co. as the preservation of meat, but has now come to form a very considerable part of it, large quantities of preserved vegetables being used on board of ships. All the kinds in ordinary use are preserved in tins, which are subjected to a process similar to that for the preservation of meat, with differences as to the temperature of the bath, etc., the preserving process having been gradually improved until it is now seemingly almost perfect, so that the vegetables preserved retain very much of their original character, are fit for use at any season of the year, and keep good for a number of years. We chanced lately to taste carrots of last year as good as when they were put into the tins, both flavour and colour being retained. Green vegetables change colour in the process of preservation, but do not lose any of their better qualities. It is the practice of many of the preservers of vegetables, especially those of France, to use copperas for *greening*, by which, of course, the contents of the tin are rendered unwholesome; and unfortunately many people will only buy preserved vegetables which thus unnaturally exhibit their *natural* colour. Messrs. John Gillon & Co. make it their boast that they use no *greening* in the preservation of vegetables, which, therefore, if less beautiful in colour, are safer for use than those prepared by others who have recourse to this expedient. Onions preserved in tins retain all their original properties, and are now largely used on board ship, their value as an antiscorbutic being generally recognised. It is worthy of consideration whether, on this account, their use as ships' stores ought not to be rendered imperative by legislative enactments. Even lime juice is not more useful as an antiscorbutic than onions.

Fruits are preserved in bottles, in their own juice, with a little water, in syrup, in brandy, and also in noyeau. They are so preserved that the skin of the fruit is little broken, and the flavour scarcely impaired. Like the vegetables, they are preserved without the addition of any colouring matter. Great quantities

are annually exported to India and to the British Colonies, and they are also consumed to a very considerable extent at home for making tarts, or when it is desired to enjoy summer fruits at Christmas or any other season.

Many kinds of jams and jellies are amongst the articles produced. The jams are very different from some of those offered for sale by certain English makers. The fruit is not subjected to long boiling, and in a great measure retains its natural shape, which is not the case in many of the jams to be met with in the market—pasty substances, of which, although the flavour is good, the appearance is uninviting. Indeed many so-called jams and jellies derive nothing but their name from the fruit from which they are professedly made, consisting mostly of apples boiled to a pulp, gelatine, glucose, etc., flavoured with essences. The orange marmalade of Messrs. J. Gillon & Co. is extensively exported to India and other parts of the world. The slightest examination is enough to convince any one that it is really made from the fruit, shreds of orange rind evidently constituting the major portion of it.

A very considerable branch of the business carried on in Mitchell Street, Leith, is the preparation of lime juice and lime-juice beverages. The visitor to the works is surprised on being introduced into a room in which stand more than a dozen large vats, each containing about 450 or 500 gallons of lime juice. The juice is that of limes imported from the West Indies, and differs very considerably in flavour and other qualities from lemon juice, which is often sold under the name of lime juice, and substituted for it. The true lime juice has a delicate and peculiar flavour, by which it can be easily distinguished. Like lemon juice, it is a most valuable antiscorbutic, and much used as such both in the navy and in merchant vessels. Mixed with water, it is also a delightful cooling drink in warm weather, and very beneficial to health. To render it still more pleasant, it is used for making beverages called lime-juice cordial and lime-juice champagne—the latter an effervescent and sparkling beverage like champagne, although containing no alcohol.

Our limits do not admit of more than a mere reference to the British wines made in these works, although that, as has been already mentioned, was the first enterprise of Mr. Gillon, and now, much extended both as to the number of kinds and the quantity produced, forms a very important part of the business carried on by the firm of which he is the head. The wines, such as red currant, black currant, raspberry, etc., are made from the fruit, the juice of which is mixed with sugar and fermented. The extent of

the operations carried on may be estimated by the size of the vats, which contain from 1,500 to 3,000 gallons. Many different kinds of liqueurs, of excellent quality, are also made.

Amongst the miscellaneous articles produced we cannot but specially notice the essence of coffee, which is of peculiar excellence, having nothing at all of that treacly flavour so generally found in the essence of coffee sold in our shops. It is made, we are informed, according to a method devised many years ago by a medical practitioner in Dundee. No liquorice whatever is used in its preparation, nor anything except the coffee-bean itself and loaf sugar. Without the sugar it would not keep. The sugar necessarily added, however, is almost more than enough to sweeten it for ordinary palates, and none ought to be put into the cup when the essence is used.

Another article recently introduced deserves to be particularly mentioned. It is called *granulated wheat*, and the name correctly designates it; for it consists of the grain of wheat, divested not only of all bran, but of the inner pellicle, and reduced by machinery not to flour, but to very fine granules. It makes excellent puddings, and as an article of food is much more nutritious than any kind of starch or corn-flour. We have no doubt it will soon commend itself to a high degree of public approbation.

In visiting Messrs. Gillon's works, it is very interesting to observe the different operations of one day and another. At one time the whole energies of the establishment seem to be devoted to the preservation of meat, at another time to salmon, at another to herrings. During some weeks of summer many women and girls are to be seen busily employed in shelling green peas or kidney beans, of which great quantities are preserved in tins. By-and-by they are equally occupied with the manufacture of some kind of jam or jelly, many huge basketsful of fruit demanding their immediate care. Again, the whole place is filled with the smell of oranges when the manufacture of marmalade is going on.

The making of British wines is also a work of particular seasons, when the different kinds of fruit can be obtained in abundance.

J. Montgomery.

TURTLE.

There is a curious superstition current among the Indian philosophers that our earth is perched on the back of an elephant, which in its turn is supported by a tortoise. We may smile at this conceit as much as we choose, but looked at with candour, and from an Oriental point of view, it ceases to display much extravagance. The testimony of the rocks, which cannot err, assures us that the turtle is the oldest edible creature known, and being thus at the foundation, as it were, of human existence, it would naturally acquire a degree of importance in the eyes of the Brahmin sages, sufficient to elevate it to the dignified position it occupies in Indian mythology. Fossil specimens of marine, fresh water, and land tortoises have been found in the upper strata of the chalk formation, and geological science points to the Triassac,* or New Red Sandstone, period as an indication of the time when the turtle first appeared in the tropical seas and on the margins of rivers and lakes of a world which even then had seen countless ages. At that remote epoch no mammals or birds stalked upon or flew over the silent earth; they had not been called into being, but *plesiosauri* and *ichthyosauri* gambolled in the primæval oceans, while gigantic turtles and crocodiles wallowed and devoured each other amidst the steaming slime.

Having thus briefly vindicated the claim of venerable antiquity for the Testudo family, it may be interesting to note a few particulars connected with turtles, the most important of all reptiles.

In Holland's "Plinie" it is stated that, "there be found tortoises in the Indian sea so great, that one only shell of them is sufficient for the roufe of a dwelling house. And among the islands, principally in the Red Sea, they use tortoise shells ordinarily for boats and wherries upon the water."

Dampier, in his voyages, published in 1867, mentions that, "the Jamaica turtlers were in the habit of visiting certain keys in the West Indies with good success for turtle all the year long, and from thence bring most of their turtle, wherewith the market at Port Royal is served." Further on he corroborates the classic writer by the statement:—"I heard of a monstrous green turtle once taken at

* Bristow's "World before the Deluge," pp. 166 and 210.

Port Royal, in the Bay of Campeachy, that was four feet deep from the back to the belly, and the belly six feet broad. Captain Rocky's son, of about nine or ten years of age, went in it (meaning the shell) as in a boat, on board his father's ship about a quarter of a mile from the shore." It need not create astonishment to find that during the half century preceding the date when the great navigator communicated his wanderings to his countrymen, the tortoise had been regarded in London simply as a natural curiosity.

Shakespeare states of an apothecary of the period :—

> "In his needy shop a tortoise hung:
> An alligator stuft;"

and it appears that in 1633 there was a pet tortoise at Lambeth Palace, which was alive in 1753, regarding which a chronicler of the period, in language of regret says:—"Possibly the reptile might have been alive yet, had it not been for the negligence of the gardener causing its death."

But this venerable tortoise must yield the palm for age and importance to another, which is believed to have lived for 250 years, and was the contemporary of no less than seven mitred bishops of Peterborough. It is mentioned in a document connected with the archives of Peterborough Cathedral, where its aliment was provided, and its dainty predilections amply cared for. The only restraint to which it was subjected was during the strawberry season, when it was attached to a tree by means of a perforation in its shell, so as to limit its ravages among the luscious fruit. Although its favourite food consisted of strawberries and gooseberries, it readily ate currants, rasps, pears, peaches, nectarines, and the pulp of oranges, endive, green peas, and leeks, the flowers of the dandelion, and lettuce leaves; but it utterly rejected asparagus, parsley, and spinach, and could not be induced to touch animal food of any description whatever.

Whilst an esteemed article of food in tropical countries from the earliest historic periods, it is only within the last 120 years that turtle has found favour in England, and become the cherished luxury at aldermanic feasts. On this point Littleton, in his curious "Dialogues of the Dead," writes feelingly. In detailing a conversation between Dartneuf and Apicius, in which the former bitterly laments that his evil fortune had condemned him to live before turtle-feasts were known in England. "Alas," he says, "how imperfect is human felicity! I had lived in an age when the pleasure of eating was thought to be carried to its highest perfection in England and France, and yet a turtle-feast is a novelty to me."

In a compilation of voyages and travels selected from "Jobson's Golden Trade," "Moore's Travels," and "Labat's Afrique Occidentale," published in 1745, we find the following panegyric on turtle:—"The flesh is white, larded with a green fat, firm and well tasted, having this advantage over the fat of all other animals, that it is not cloying or disagreeable, but may be eaten alone. The delicacy of the flesh makes it not fit for salting*; but when fresh, it is highly nourishing, and of so easy a digestion, that eat ever so much it never incommodes you, being alike agreeable, dress it which way you will. The best piece is the belly, taking also the shell that covers it with the thickness of two fingers of the meat it contains. This they put in the oven whole, seasoning with lime-juice, salt, pimento, and common pepper mixed with cloves, and baked with a slow fire, it makes an excellent dish."

The Testudo family all possess the characteristic of a coat of armour above and below, which defends the creature from injury, and under which, except in one or two varieties, the head, neck, tail, and feet may be withdrawn. The upper shield is named the *carapace*, and the under one the *plastron*, and it is worthy of note that the muscles of the fore-legs and neck are not connected with the ribs and spine like the arrangement in other four-footed creatures, but are attached in a curious manner beneath; so that Cuvier, from this circumstance, and from the fact that the tortoise and turtle afford the earliest examples of the skeleton being brought to the exterior of the body, bestowed the singular yet appropriate designation upon them of "inverted animals." In addition to this covering of mail, one interesting tortoise, the Pyxis of India and Madagascar, possesses lids of horn, moving on leathery hinges, which effectually close up the apertures when the extremities are retracted. The use of such an arrangement in this particular instance is apparent, when we recollect that in some of the Testudo species, where the openings in the armour are undefended, the animal is liable to be killed by a persevering foe like the jaguar, which insinuates its paw within the shell, and scoops out the contents with its sharp claws. But where the defensive equipment is

* This remark is at variance with the statement of Count de Lacepede, in his "History of Oviparous Quadrupeds" where he says:—"The tortoise fishers from the West Indies and Bahamas, who catch these animals on the coasts of Cuba and its adjoining islands, particularly the Caymanas, usually complete their cargoes in six weeks; they afterwards return to their own islands with the *salted* turtle, which is used for food both by the whites and the negroes. This salt turtle is in as great request in the American colonies as the salted cod of Newfoundland is in many parts of Europe."

complete, there is no method of getting at the flesh of the turtle availab'e to any ordinary enemy, except breaking the shell; a feat beyond the power of most quadrupeds, although mentioned in classic story as having been practised by certain enormous birds soaring to a height, and dropping the reptile upon a convenient rock. The Rev. Sydney Smith, writing of the "Cistuda Carolina," or American box tortoise, felicitously remarks—"It need fear no enemy except man and the boa constrictor, the former taking him home and roasting him, and the latter swallowing him entire, and consuming him slowly in its interior, as the Court of Chancery does a large estate." Covered with unyielding armour, the act of respiration, as performed by other animals, would be impossible to most of the species, so that some other method of breathing becomes necessary. Accordingly, although the thorax is usually immovable, yet, by the play of the mouth, tongue, and nostrils, the necessary quantity of air is forced into the lungs.

In the Island of Ascension the well-known green turtle are caught in vast numbers between the months of February and July, and kept in tanks for the supply of ships during the remainder of the year. During this period the females swim ashore to deposit their eggs, which are spherical, about the size of a tennis ball, and covered with a substance resembling damp parchment. The hatching of the young and the dangers they have to encounter ere they reach the sea, form quite a romance in natural history. Landing between the hours of ten a.m. and four p.m. the females crawl about 200 yards above highwater mark, where they dig pits ten feet in diameter and three feet in depth, in which they deposit from 60 to 250 eggs, covering them up carefully with sand. At the expiry of ten weeks the eggs are hatched by the solar rays, when the young break through their shells, and working upwards, proceed directly towards the sea. It is during this short journey that the juvenile turtle frequently becomes the prey of man-of-war birds, ever on the alert, hovering over the pits.

But the turtle of Ascension have reason to rejoice in a comparative immunity from foes when contrasted with those of the Brazils, Florida, West Indies, and Laccadive and Maldive Islands. There, huge alligators swallow them by hundreds as they issue from the egg, prowling wood ibises watch for those that straggle along the beach, eagles and buzzards dodge the main body to the water's edge; and, when a remnant has escaped, scarcely have the individuals plunged into their new element than rapacious fishes eagerly wait to devour them.

Wm. Cochran.

[to be continued.]

NOTES ON THE COCOANUT PALM, AND ITS USES.

COASTING along Ceylon and the Malabar littoral, the voyager will notice the tall palm trees, which appear as if growing in the sea, and will learn, on enquiry, that they are of the variety *cocos nucifera*, or the loving cocoanut tree.

Though the sight of these never-ending groves may at length pall upon the eye of the traveller, yet he will do wisely if at eventide, while the ship is becalmed, he should take the "jolly" boat and land on the silent beach. In a few minutes he will stand in a 'grove of palms," and must be of a somewhat stolid temperament he does not feel something like a new sensation, as he looks aloft and listens to the rustle of the first breath of the sea breeze, as it gently waves the graceful fronds or leaves overhead. Those who have been in the East will, as they read these lines, recall the sound, and with it, perhaps, may be brought to mind many pleasant days and the faces of old friends who sleep beneath the southern cross Those who have not strolled under the welcome shade afforded by the fern-like canopy, will remember Thomson's lines :—

> Shelter'd amid the orchards of the sun,
> Where high palmetos lift their graceful shade,
> Give me to drain the cocoa's milky bowl,
> And from the palm to drain its freshing wine.

There are many varieties of the palm. Among them the *Caryota urens* is the most ornamental, with its long pendulous clusters of dark-red, succulent, acrid berries. The pith of this tree yields a species of sago, and the sap is commonly employed in the Deccan as yeast for raising or fomenting bread. There is also the travellers' palm, or crab tree, from which a watery juice is extracted, and which, crowning the summits of hills, forms a picturesque object on the landscape, with its broad fan-shaped leaves. The date trees of India and Ceylon neither possess the loftiness nor the beauty of foliage of those growing in such luxuriance on the banks of the Shatt-al-Arab, in Mesopotamia, and indeed seldom bear fruit. The areca palm, which is cultivated in most parts of India, and is indigenous on the Malabar coast, furnishes the "betal nut," which, mixed with "paun," forms a composition the Hindoos are in the constant habit of chewing.

There are five well-marked varieties of the cocoanut.* The Tembili, of which there are different descriptions, is a very well-formed, handsome nut, of oval form and bright orange tint. The Bhuddist priests of southern India and Ceylon generally contrive to keep a store of the choicest kinds of the Tembili in their temples as offerings to the passer-by, who is expected to make a return. The Nawasi is slightly heart-shaped, of lighter colour than the preceding, and bears an edible husk. On stripping off the outer rind, the inner skin turns to a pale red colour, and is fit for use. There is a third variety of nut, somewhat small and round, and in colour much resembling the Tembili. Then there is the common cocoanut, so well known to every urchin in London; and, lastly, we have the double (*Ladoicea Seychellorum*), which, as its name implies, is a product of the Seychelles, a group of islands in the Indian Ocean.

In old times the most marvellous medicinal virtues were attributed to nuts of this description, and they were considered unfailing antidotes to all kinds of poison. As their origin was veiled in obscurity—those obtained being either caught-up floatings at sea or on the coasts of the Maldine Islands, where they were thrown up by the tides and currents—the most extravagant sums were asked and obtained for them. Thus it is recorded that the Emperor Rudolph II. offered 4,000 florins for one which chanced to be for sale, but the bidding being considered insufficient, the precious nut passed into other hands. It is even said that a merchant ship, with her freight and stores complete, has been bartered in exchange for one.

The natives believed that the trees producing these nuts grew at the bottom of the sea, and were enchanted palms, which vanished the instant the adventurous diver attempted to reach them. Death was awarded to any one who, having found one of these nuts on the shore, failed to make it over to his sovereign. The kernel was the part supposed to possess miraculous medicinal qualities, and with it were mixed such anomalous ingredients as pounded antlers of deer, ebony raspings, and red coral dust.

At the present day, when these cocoanuts are exported from the Seychelles Islands, cups made from the shells are mounted by the wealthy natives of India with gold and precious stones; the religious mendicants of Ceylon also set a high value on the shells, and use them as alms-boxes to attract the contributions of the faithful.

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* "The Cocoanut Palm," by W. B. Lord, R.A.

The palm bearing the common cocoanut attains, in situations favourable to its growth, a height of from 60 to 80 ft., but rarely exceeds a diameter, at the base, of from 1 to 2 ft. The roughness of the bark is caused by the progressive falling off of the fronds, as the tree shoots upward. But this roughness, and the crookedness of the tree (for a straight palm is rare indeed), are compensated by the beauty of the foliage of the crown. "Here," says Mr. Lord, "the graceful, fern-like leaves may be seen in every stage of development—the lower tiers drooping, those above spreading out feather-like, whilst the centre stands up plume-like in all its beauty." The nuts grow in clusters, and the number on one tree varies from 40 to 200 in different stages of development. The "spathes" which are thrown up among the young leaves of the cocoa palm, and on which grow the blossoms, are often nearly 4 ft. in length and 6 in. in circumference. In favourable seasons these spathes or plumes of flowers are shot forth every four or five weeks, and as the blossoms drop off the young nuts are formed, affording a store of food and drink all the year round. When the sap of the palm is sought for the manufacture of toddy, or some other products, the young fronds, together with the flower spathe, are bound together with ligatures, in order to prevent the development of the blossoms; a puncture is then made at the foot of the spathe with a toddy knife, and numerous taps administered to the part adjoining the cut with the handle, to set the sap flowing; a chatty, or earthen pot, is then suspended in a suitable position to receive the cool sweet juice of the tree.

To ascend the lofty palm various methods are employed, and often has the writer watched the agile natives swarming up with rapidity by inserting the great toe into a series of notches cut into the bark. Another method is by casting a band round both tree and toddy-drawer, who then plants the soles of the feet against the trunk, and literally walks up, "hand over fist." They also traverse the space between the top of the trees on coir ropes, thrown across from one to the other. Early in the morning, before the sun is up, the toddy-drawer with monkey-like agility ascends the tree, lowers down his well-filled pot, which is received by a companion, who replaces it by an empty one. From one to three quarts is the general result of one night's drawing; but the trees thus treated become barren, and yield no fruit. Immediately after collection the toddy is sweet and deliciously cool, but in the course of a few hours this is changed for an agreeable acidity. It forms a refreshing drink in this state, but in twenty-four hours becomes quite sour. Toddy, when fermented, is made into arrack,

a liquor which, being cheap and fiery, is greatly consumed by the poorer class of Europeans at Bombay, and is the bane of our soldiers and sailors in the Presidency town.

Vinegar is made by allowing the toddy to stand for about a month in earthen jars fitted with covers. The liquid is then carefully strained, and replaced in the jars, in which is thrown a little red pepper, a small piece of the fruit of the gamboge tree, and a pod of the horseradish, which in the East attains the dimensions of a tree. In about five weeks vinegar of a most excellent quality is the result. Not only spirits and vinegar are made from the juice, but the material known as jaffery, or native sugar, is produced before fermentation by boiling the sap to a syrup with quicklime, when it is roughly crystallized. Large quantities of this are exported, and used for sweetmeats, in the manufacture of which in great variety the natives of India are consummate adepts.

The cocoanut is consumed in a greater variety of ways than even the sap, and not a portion of it, or of the palm on which it grows, is without its special use. Besides the refreshing drink extracted from the young undeveloped nut, which is also made into a dye, the pulp inside the soft crust is considered a delicacy, and is used in the preparation of various dishes. The kernel, when ripe, is also treated in a variety of ways for food, and forms an important ingredient of curry. Cocoanut oil is also extracted from the ripe fruit by the natives with their primitive contrivances, in which bullocks are the motive power. When under European manipulation, iron machinery driven by steam expresses about 2½ gallons from 100 nuts. Besides its more practical and prosaic virtues of supplying food and clothing, the poets of the East have from time immemorial assigned as one of the attributes of the cocoanut palm-tree that it "loves to hear the sound of footsteps and pleasant voices."

In moderately favourable situations, says a writer, this species of the palm commences bearing fruit at from ten to thirteen years of age, and remains at full maturity for between sixty and eighty years, producing, on an average, about 100 nuts annually. The tree then begins to deteriorate and fall off in its yield, continuing in this declining condition for about twenty years, when it ceases bearing altogether, and dies. It is curious that while in this moribund state the famous "porcupine wood" of commerce is obtained from its trunk; so that even in death the cocoanut palm is man's faithful friend, and ministers to his wants.

Many are the uses to which the tree is put while in maturity.

The thatch covering the houses is made with the prepared mid-ribs of its leaves, and secured with cord twisted from the cocoa fibre, from which also nets and fishing lines are made. The plaited strips of the leaf supply material for baskets in which the freshly gathered nuts are stored. Cocoa cloth is an article of manufacture. Torches are made by twisting together a sufficient number of dry leaflets, the end of the mid-rib serving as the handle; from these leaflets, when split, mats* are woven. As to the fibrous husk of the nut known as coir, its utility is without limit. Besides floorcloths and mats, which are generally employed in this country for offices, and from their strength of texture are unrivalled, the coir is manufactured into rope, and is extensively used on board ship; and in the "country" trading ships of India it entirely supersedes manilla and hemp as being equally strong and durable, and infinitely cheaper.

Pipes, bottles, and drinking vessels for native use, oftentimes polished and handsomely mounted, are made of cocoanuts from which the white meat is extracted, without injuring the shell, by pouring out the milk, filling it with salt, and burying it in the hot sand until the kernel is decomposed, when it is removed from one of the three holes in the "monkey's" face. Thus countless are the benefits conferred on man by the palm, forming, as it does, one of the most useful of all the gifts of Providence. The South Sea Islanders, we are informed by those who have been among them, make books out of the leaf-strips similar to the papyrus of the ancient Egyptians. Canoes are built of the pliable planks, which, when grooved and bored, are stitched together with coir-twine, are propelled by cocoa-wood paddles, masted with a slender young palm, and rigged with coir cordage, which carries a mat sail; thus, ready for sea, freighted with a cargo of nuts, oil, lamp-black, vinegar, sugar, and arrack (all the produce of the palm), and finally stored with nut food for the voyage, the sole remaining requisite to make a successful commercial venture, but one that man cannot command, is a propitious breeze.

C. R. Low.

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* In the manufacture of endless varieties of mats from the cocoanut palm, the South Sea Islanders excel the natives of India. The former also construct Æolian harps from the stretched fibres of the leaves, and the leaf of the cocoa palm is often carried as an emblem of authority, while an offer of marriage is made by the presentation of a cocoanut to the fair Polynesian. Again, the devotees of Mars rather than of Venus turn the trunks into palisades to fortify their villages, so that in war as well as in peace the tree retains its ascendency in the forest.

DINNER IN THE HEART OF THE CITY.

Part II.

Here in the heart of the City, and amidst that bustling centre of commerce to which we have referred, may be seen one of the latest and one of the most striking results of the great prandial reformation, for it is within the hospitable walls of the City Restaurant in *Milk Street, Cheapside*, that these reflections occur to us. The reader will see presently that we use the word "us" not only as the usual anonymous plural, but with a definite intention, as including a party of six. Three of us reached the entrance of the building from Cheapside, where it can be seen, as it were, looking with a kind of reserved consciousness of merit from the angle formed by the junction of Milk Street with Mitre Court, which is itself the junction of Milk Street with Wood Street. Of the two entrances, that in Mitre Court gives immediate access to a staircase leading to an ascending series of as handsome rooms as can be found in the City, all of which have been added to the original building, and are remarkably illustrative of the new order of things. The first is a *salle à manger*, very elegantly ornamented and appointed, noticeable at once, not only for its comfortable furniture, but for its capital lighting and ventilation and its pleasant quietude.

Above this large and cheerful saloon is a lobby where, passing a bar for the supply of wine, ale, and other beverages to this portion of the building, is a lavatory and ante-room for gentlemen, with all the comfortable accessories of a before-dinner toilet, no small refreshment after a morning in the heart of the City. Beyond there is what many visitors will regard with pleased surprise, a gem of a smoking room, with comfortable elbow chairs, harmoniously coloured and prettily decorated, and contrivances by which not only ventilation but temperature may be controlled and regulated with perfect ease. In this room will be found papers, magazines, and periodicals, and (excellent addition in the centre of commercial activity) important *telegrams* are published at intervals during the day, so that a tired correspondent, seeking the solace of the soothing weed, may have the information he desires brought to within a pipe's length of his anxious eyes.

Up another staircase, and we may well stay to take breath, not because the ascent is difficult, but in sheer astonishment to find ourselves in a great room, or rather hall, extending over the greater part of the building, and surmounted by a fine, lofty, ornamental

roof of timber work. The visitor who has been thinking of the City a quarter of a century ago may well rub his eyes and give a little gasp, for, occupying the centre of this fine apartment are two of the largest-sized billiard tables, built by Burroughs and Watts; and the morocco-cushioned seats round the walls, as well as the other appliances of the place, are intended for connoisseurs and players of the great game. Remembering that among the "wholesale" are scores of foreign buyers—remembering, too, that City men who like to have an hour together over the green cloth are seriously inconvenienced by having to go to a public billiard room at the West End, we may well endorse the special declaration of Mr. Alexander Gordon, the proprietor of this establishment, that "the tables are provided for the recreation of customers who, it is believed, will play at them just as they would join in a game in their own billiard rooms at home." Descending again to the lobby, we—that is to say, we six—push open a pair of closely-fitting doors, and at once pass into that portion of the building which is reached from the main entrance in Milk Street. We become aware of a gentle frizzling, which suggests at once that it is a chop and grill room, but it takes us a little by surprise that the ear, and not the nose, is the organ which distinguishes this fact. With a brisk demand from ladies and gentlemen for chops, steaks, kidneys, sausages, the system of ventilation secures us against the sudden perception of a mingled flavour of these appetising examples of plain eating. From the landing outside this room, is a private staircase leading, as we are informed, to the ladies' lavatory, where the mysteries of the feminine toilette are ministered to by a special attendant, an arrangement the comfort of which is enhanced by the facility with which a lady entering the door in Milk Street can proceed upwards by the staircase to the lavatory without first entering either of the rooms on the two landings. The first of these is the apartment below the chop-room, and is the comfortable dining-room of the original establishment, where the guests may either select their dinners from the carte, as in the adjoining saloon, or order a plain or varied dinner at inclusive prices.

Once more to the ground floor, and there we turn through the swinging door at the foot of the stairs and enter the luncheon bar. There is variety enough here to satisfy the most inveterate snapper-up of unconsidered trifles in the way of snacks, beside certain hot and substantial refreshments, which would be a very handsome compromise for dinner. Soups, cold meats, savoury things, potted things, pastry, ices, wine, ale, stout, liqueurs, "pegs"—tea, coffee,

and a score of knick-knacks are being consumed either at the broad counter of the American bar, the Vienna Bier counter, or at one or other of the little tables, and we ourselves go through a pleasing ceremony, the particular form of which need not be declared, as we look at each other and then separate, to meet again by agreement in forty minutes at the same spot, each one of the six with an item of information, the record of which will serve to indicate the scope and extraordinary variety of the provision made for hungry Londoners by this representative "city restaurant."

Briefly, then, this was the result of the comparison of notes when we met, and went through a similar pleasing ceremony to that with which we commenced our investigations.

No. 1, had been upstairs into the old dining-room, and had gone in for mock turtle soup, turbot, and saddle of mutton, with vegetables, bread, cheese, and butter—price half-a-crown.

No. 2, whose tastes were expensive, had accompanied him, and had consumed clear ox tail, whitebait, fricassee of chicken, duckling, and peas, with other vegetables, bread, cheese, butter, and salad—and had paid three-and-sixpence.

No. 3, a plain eater, came out of the saloon satisfied with a cut from a roast sirloin of beef, vegetables, and bread—for elevenpence.

No. 4, a still plainer eater, smiled serenely as he said with sententious pride, "Chop, potatoes, greens, bread—tenpence!"

No. 5, capped him with, "Tumbler of claret, and tongue sandwich—fivepence;" but

No. 6, simply said, "Glass of water and biscuit—a penny," amidst a howl of derision, which was only allayed by his inviting the whole party to a dinner for the next day, consisting of five courses and dessert, which would cost him just five shillings a head.

"But about that water?" said somebody, anxiously regarding No. 6.

"Every drop filtered, even the water used for cooking," he said calmly. "I've spent the time looking at the cisterns and the kitchen; but how about the beer up at the top of the house?"

"All right," said sententious No. 4; "right as malt and hops. There's an automatic generator in the cellar, and all the beer is forced up by the pressure of a volume of carbonic acid gas on the vat, the only way to keep the Vienna Beer in condition."

Chorus: "Science is a great invention."

No. 4: "So is beer."

We regarded each other with an air of solemn conviction, as each made a note of the morrow's engagement, and went his way.

HOW TO MAKE THE MOST OF OUR FRUIT.

We are now in the very midst of the fruit season, the shops are literally overflowing with the attractive berries, while greengages, very green, and apples still greener, are making their *début*. The street arab eats all he is lucky enough to get hold of—good, bad, and indifferent—the first in the smallest, and the second in probably the largest proportion, and perhaps is little the worse for it, for moderate diet and much exercise are fine stomachics; but careful mamas dread the effect of too much raw fruit on the health of their darlings, and they are often in the right, and especially so after a plentiful meal. That period is the worst one in the day for fruit eating; to really enjoy fruit it should be eaten by itself, or with bread as is common upon the continent, for breakfast or luncheon. A French country lad will eat a pound or two of grapes or any other kind of fruit with a huge hunch of bread, and a young Spaniard half a big water melon for his dinner, and desires nothing better.

In England, however, except in the very finest seasons, fruit is scarcely ever fully ripe enough to indulge in freely, and powdered sugar is almost a necessary passport, though a very insufficient corrective.

Pies and puddings indeed form a very pleasant item in the English *cuisine*, but delicate pastry is dear, and coarse pastry is not very palatable except to the plough boy and the urchin, who, like the captain, as described by the sailor in the old story, is an "Epicure, a fellow who can eat anything!" And we fear it must be added that no pastry, whether delicate or heavy, is very wholesome.

Then, delicious as is a well made raspberry and currant tart, cooked fruit never possesses the flavour of fresh ripe fruit, and, moreover, it "goes to nothing in the cooking," as a plain cook might say.

Our neighbours, the French, make their tarts and tartlets in a very sensible manner, retaining the full flavour of the fruit; the crust is a mere shell, formed of very simple paste, but always with good butter; this is baked by itself, and the fruit placed in it afterwards, and over the fruit is poured hot syrup. The tarts, thus made in Paris of small strawberries, grapes, and other fruit are simply exquisite, when eaten, as they always are, cold.

But pies and puddings, tarts and tartlets are not fruit properly so-called, although they form delicious *entremêts*. The question is how to make fruit itself palatable, satisfactory, and wholesome. This is fairly answered by what is called in France *macédoine des fruits*. Take whatever fruit is at hand of the softer kinds—currants (red, white, and black), strawberries, raspberries, cherries, grapes, whichever are in season, and in as great variety as possible, for it is the mixture of flavours that, as in the case of the salad, makes the *macédoine*; strip and pick it all carefully, and mix it together in a salad bowl or any other deep vessel, strew over the whole finely powdered loaf sugar, and over this a very small quantity of claret, sherry, or even water. This must be done an hour or two before the *macédoine* is to be eaten; give the fruit a careful stir so as to disseminate the syrup equally over all, and the lover of fruit will find a new enjoyment; the syrup will have crept into every corner of the luscious flesh. Eaten alone the *macédoine* is a delicious dessert; with a fresh roll it makes a capital *entremêt*.

Small stone fruit, such as greengages, apricots, and peaches, may be added to a *macédoine*, being first halved and the stones taken out; but there is another mode of treatment for the hard-fleshed plum tribe, which will be found valuable in England, where stone fruit is too often dangerously crude; this consists of pouring over the halved fruit boiling hot syrup, and, when the fruit is really unripe, allowing the whole to simmer gently near the fire until the flesh of the fruit is artificially ripe. This fruit in syrup, when cold, is delicious, as all the flavour it possesses is retained, and, indeed, elaborated. In France syrup flavoured with raspberries is often used in place of simple syrup.

The London shops and barrows are now getting well supplied with West Indian pines, but sad is the disappointment of the novice who expends a shilling on a pretty looking pine-apple, and finds that, with a delicious odour, it possesses the texture of a hard turnip. Now these pines when treated with boiling syrup, as described above, until the flesh is tender, form one of the most delicious *entremêts* imaginable; the fruit must be cut into slices of the usual thickness, and carefully pared.

There is not a restaurant in Paris, we believe, in which pine-apple in syrup is not to be found on the *carte*.

G. W. Y.

MARKETS OF THE MONTH.

The continued dearness of meat is surely unprecedented and unparalleled in the annals of trade, and there is still no tendency towards reduction. Lamb has maintained a high price throughout the season; mutton is very dear, and veal and beef also are no cheaper. Pork, it is true, is cheap; good prime joints of small pigs make from 7*d.* to 8*d.* per lb., but pork, unfortunately, is not esteemed very highly as an exclusive article of meat diet, especially in the hot weather. Universally meat is dear, but it is much dearer in some parts than in others. In one place any prime joint of meat of the best quality may be purchased for 9½*d.* or 10*d.* per lb.; in another, the same joint of meat, of precisely the same quality, is charged at the rate of 1*s.* or 1*s.* 1*d.* per lb. The retail prices of the fashionable London butchers are not warranted by the present market value of the carcase. Rump steaks are sold at as high a price as 1*s.* 2*d.* per lb.; mutton chops, 1*s.*; lamb, 1*s.* to 1*s.* 1*d.* lion of beef, 1*s.* to 1*s.* 1*d.* Comparing the present wholesale quotations of the meat market with those of a couple of years ago, meat, with the exception of mutton, appears to be cheaper now than then. Why then should the retail butchers charge more now than then? I think that the cattle plague furnished a reason for the primary advance in price, and since then butchers have arrived at an amicable arrangement amongst themselves, by which they alone, and not their customers, shall derive all the benefits accruing from the stamping out of that pest. Mutton truly is justly dearer, there are fewer sheep in the country, but the present price of beef and veal is maintained unaccountably.

Poultry is becoming cheaper as the season advances; ducks make from 2*s.* to 2*s.* 6*d.*; fowls from 1*s.* 9*d.* to 3*s.* 6*d.* or 4*s.* Turkey poults too are not quite so expensive now, and are naturally larger; pigeons make 8*d.* to 10*d.*; quails, 1*s.* 6*d.*; leverets, 3*s.* to 5*s.*; geese, 6*s.* to 8*s.*; game promises to be plentiful; pheasants, partridges, and grouse do not appear to have suffered much from the heavy rains.

Grass butter is still plentiful, but slightly dearer.

The fish market is well supplied with fish. Smelts are again in season, and flat fish of all kinds are plentiful, good and cheap, as also are lobsters and crabs; but salmon still maintains a tolerably high price for this season of the year, the wholesale price not having fallen as yet to 1*s.* per lb. Present prices are—small fish, 1*s.*; large 1*s.* 3*d.* to 1*s.* 4*d.* It is a curious circumstance that the bulk of

the salmon that has lately been sent to market consists of either small fish under 6 lb., or large ones over 12 lbs. Medium sized fish from 9 lb. to 12 lb. have been conspicuous by their absence. A published account of a large catch of salmon a few days ago stated that out of some 200 fish not one weighed less than 20 lb.

The fruit market, just now, is very active, as everyone is laying in stock for preserving. There have been several sales of West Indian pines this month, and, as I anticipated, prices were low, and quality good. Strawberries have been plentiful, price about 20*s.* per bushel; raspberries, price from 1*s.* 3*d.* to 2*s.* per gallon; currants are scarce, price from 4*d.* to 6*d.* per lb.; dessert cherries have been a fair average crop, but Flemish, and other kinds suitable for preserving, have been very scarce and dear, price 9*d.* to 10*d.* per lb.; apricots will be very scarce, as also will peaches and nectarines. In some places there are good crops of greengages and plums; in most instances, however, this crop is a failure. Apples will, I think, be a fair average crop, but pears will be very thin. Oranges are now very dear, 2*d.* to 3*d.* each, and there are few in market; lemons, too, are very dear, 2*d.* to 3*d.* each. New Lapucaia nuts have arrived, and are selling in ¾ cwt. casks at 6*l.* per cwt. Portugal onions make 14*s.* per case; Lisbon, 11*s.* 6*d.* per box. New potatoes (Cherbourg), round, 8*s.* to 9*s.* per cwt.; kidneys 10*s.* to 11*s.* Dutch cucumbers, 1*s.* 9*d.* per dozen; English, 6*d.* to 9*d.* each. Tomatoes, in boxes, from France, 3*s.* to 3*s.* 6*d.* per box. Pines, forced (hothouse), 7*s.* to 9*s.* per lb.; West Indian, 1*s.* to 2*s.* each, according to size; grapes (hothouse), 3*s.* 6*d.* to 6*s.* per lb.; white muscats, 7*s.* to 8*s.*; English melons, 5*s.* to 6*s.* each; French, 2*s.* 6*d.* to 3*s.*; Dutch 1*s.* 6*d.* to 2*s.*; peaches, 1*s.* to 1*s.* 6*d.* each; nectarines 10*d.* to 1*s.* 4d.; greengages, 1*s.* each: plums from France in boxes, 2*s.* 6*d.* per box; greengages from France, 2*s.* to 2*s.* 9*d.* per box; apricots from France, 2*s.* 3*d.* to 3*s.* 6*d.* per box.

Peas are plentiful, from 6*d.* to 1*s.* per peck. French and broad beans are now in market; also cabbage, spinach, turnips, carrots, potatoes of all kinds, artichokes, and vegetable marrows; mushrooms are beginning to grow freely. Flour is very steady, with a tendency to rise. In some districts it is feared that the heavy rains which accompanied the late thunderstorms, may have damaged the corn, but, as far as one may at present venture to cast the horoscope of the harvest, I think I may predict a fair average one. The sugar market is quiet, the coffee market steady, but the coal market has taken excelsior for its motto.

P. L. H.

July 22.

NOTES OF THE MONTH.

Some interesting facts concerning the Tunisian fisheries are furnished in a report by Mr. Vice-Consul Green, and they serve to illustrate the waste of food substances that is constantly occurring, through want of foresight, in the preservation and augmentation of the supplies with which Nature has endowed every clime. By a perfect system of increase and exchange of its several products each country might add to its own riches, and at the same time greatly benefit those with which it trades. Thus we are told that in the Bisuta Lake grey mullet and several kinds of bream are most abundant. The fish is caught by means of stake-nets; but as it has to be brought to Tunis, a distance exceeding forty miles, on pack animals, it frequently arrives in an unmarketable state. It is calculated, that if proper and expeditious conveyance could be obtained, the supply of the fishery would be sufficient to augment its yearly value by 15,000*l.* or 20,000*l.* Owing to the present fish farmer being able, without any considerable outlay in guards and assistance from preservative enactments, to secure a handsome return from the fisheries conceded to him, great waste and destruction of fish exist, and it is not to be doubted that if proper discrimination were shown in the collection the supply of fish would rapidly increase. The lakes also contain great numbers of eels, and, if proper measures were adopted for their capture, it is probable that sufficient quantities could be taken to render their being salted or pickled profitable. Vast numbers of eels thus prepared are furnished to all the Mediterranean markets from Euds and the Italian lagoon fisheries. Then, with regard to shell-fish, we are told that prawns from six to seven inches long are constantly to be seen in the Tunis market. "Tunis—that is, Carthage—was noted in ancient times for these crustaceæ, and they were frequently sent for from Rome for the banquets of her emperors." Space will not allow us to follow Consul Green through his interesting details of the tunny fisheries; it will suffice, however, to note what he says with regard to the general European demand for the fish, which it appears "is at present limited to the countries bordering on the Mediterranean. In Germany tunny is beginning to be known and called for; but it took six months last year to dispose of 200 tin boxes that were sent to England as a commercial experiment." An opinion, however, is expressed by the writer that the best qualities of tunny only require to be better

known in England to be highly appreciated. Some curious facts are given with regard to the polypi; these are sent to the Greek markets solely for consumption during Lent, the Greek Church not including them in the prohibition against the use of fish in seasons of religious abstinence. They are salted and dried for exportation, but a plan which promises to be successful has lately been introduced of first scouring and boiling them, and afterwards preserving them in oil or brine. Consul Green concludes his comprehensive report with an account of the manner in which polypi are captured. One plan is to string a series of earthen jars together and lower them to the bottom of the sea; after remaining for a few hours they are taken up, usually with from eight to ten of the creatures in each jar. They can also be captured by sinking drain-pipes, into which they crawl and are easily brought to the surface. Other plans are also adopted, and sufficient polypi produced to meet the demand, which is comparatively small, the consumption being "restricted to the countries where the rigours of the fasts of the orthodox church are still observed."

THE recent disgraceful *fracas* at the St. James' Hall Restaurant has furnished the materials for so many remarks in the daily papers that further mention of it is almost unnecessary. Not the least able of the various articles is that by "Rupert," the well-known writer in the *South London Press*. As that gentleman truly remarks, the time when people could say "I take mine ease at mine inn" is in great danger of becoming extinct, when we find a waiter, admittedly by orders from the host, taking forcible possession of a diner's hat, because he disputed an item in the bill. We have seen boys annoying the conductors of omnibuses, travelling in steamers without sufficient funds, and having the dreadful threat held out of "I'll take your hat, my lad;" but we certainly thought that a grown-up man was free from this indignity, and that, if "taken" at all, he was entitled to have his whole person seized, but that, as an Englishman, his hat should be respected. In Regent-street, however, *nous avons changé tout cela*, for if we do not pay any sum demanded, the hitherto respected chimney pot is forthwith to be impounded, and if we attempt to recover it, we are to be set on by several stalwart waiters, and finally "run in" in the presence of a gaping crowd. What made the case fifty times worse was, that in a bill which exceeded a pound, the matter in dispute was only eighteen pence, and the remainder of the charge had been duly settled when the

hat was seized. The facts of the case are so well known that it would be a waste of space to dwell on them, but we must confess that we see nothing in the proprietor's defence that the service is *ad libitum*. It would have certainly held good had the parties simply taken a "dinner off the joint" at a fixed price, when any additional person partaking was clearly entitled to pay; but where "cutlets for two" are ordered as an extra, it is quite clear that, provided "cutlets for two" are only served and consumed, it is no business of the host how many persons share the food. If the guests, for the sake of having a variety of dishes and keeping the bill down, choose to put up with portions for two among three, that is their private affair alone, and no one has any business to interfere. It is in the interests of restaurant proprietors, of course, to talk of such a course as "mean," and so to raise up a Mrs. Grundy cry which may deter "appearance-fearing" people from adopting the continental system of sharing portions; but we trust the public will soon learn that it is more to their interest to have a variety of food at a moderate price, than to send away quantities of untouched dishes, merely for the sake of not being thought "mean" by waiters. It is only snobs and *parvenus*, without real status in society, who would dread such things, and it is by them that the system of wasteful extravagance, now so common in English restaurants, is mainly supported.

When the Baroness Burdett-Coutts made the magnificent gift of Colmbia Market to the citizens of London, it was believed that the poorer inhabitants of the east would at length have abundant supplies of food brought to, and vended at, their doors. Yet, from some cause, the whole scheme has hitherto proved anything but a success, and the donation of the bountiful lady inoperative. It appears that she specially had in view the supplying of fresh fish at a cheap rate, which in itself would have been no insignificant boon. Probably the chief barrier to the usefulness of the market was the absence of direct connection with the railway system. This, we are glad to observe, will shortly disappear, as an Act has been obtained for laying down a tramway from the Great Eastern Railway, which will facilitate the immediate transfer of waggons, containing fish and other food commodities from the terminus to the market. It would indeed be a slur on the intelligence of the metropolitan authorities, did this splendid *entrepôt* remain any longer unproductive.

Vivisection has its defenders in France, as experiments on live animals have recently found promoters among one of our learned societies here. As to the necessity for the infliction of torture on dumb creatures in the interest of science we refrain from passing an opinion, but we must characterise the following series of investigations, conducted by a doctor of Montpellier, a few weeks ago, as much more curious than useful. It appears he was desirous of noting the effects of wine, brandy, and absinthe on fowls to which he administered doses of liquor. He found that the most robust and hitherto abstemious cock or hen succumbed to two months drinking of absinthe; birds which were put on a brandy diet lived four months and a-half; while those which took kindly to wine survived nearly a year. As with heavy drinkers of the human species, whose noses are usually characterised by an increase in size and accession of colour, the crests of the debauched cocks became amplified four fold, and assumed quite an unnatural brightness, although in other parts they lost flesh rapidly. Evidently an alcoholic diet is as little suited to fowls as it is to human beings, and to those who rear poultry for the table on brewers' grains, perhaps the French doctor's experiments may afford some new ideas.

Raisins, currants, figs, and the several varieties of hazel nuts, are amongst the best known of imported dried fruits; many other similar products, however, are to be found to suit all tastes, if not all pockets, in the large Italian warehouses of London. We English are not noted for anything fanciful in the preparation of our articles of food, therefore we seldom produce any great novelty in the way either of necessity or luxury: for instance, the fruit of the walnut we use at two periods of its growth—first as a pickle, next as a dessert nut; but in the South of France they are preserved in syrup or sugar, and in this form they are very delicious; they are, we learn, moreover, useful in a medicinal point of view, and are now being ordered by medical men in cases of cancer and scrofulous diseases. A nut little known to Englishmen, but a favourite with foreigners, is the Pistacio nut (*Pistacia vera*). Large plantations of it exist in Turkey, particularly in the neighbourhood of Aleppo, "and in favourable years produce a sufficient yield to supply the European markets with these nuts, which are much superior in flavour and nutritive qualities to those produced in Sicily, Arabia, and Persia. Last year was remarkable for their abundance, and the exportation was three times as great as that of 1870."

Our readers will have been pleased to learn from the daily papers recently, that the notorious meal adulterant known as "Jonathan" has met with the reception it merited at the hands of the Gisborough magistrates. This evil substance owns a strange negative peculiarity, inasmuch as it appears to be much easier to say what it is not than what it really is. Dr. Merryweather stated in evidence that it was not barley or oats, or any substance fit for the food of man or beast. It appears that "Jonathan" has been regularly manufactured at Montrose and Newcastle for a length of time, and is stated by the agent for its sale to be composed of the husk of oats mixed with a little fine oatmeal. For fifteen years this substance has been used by millers for garbling Indian and barley meal, and from its containing only one-half part in a thousand of nutriment, and consisting of sharp husk and fibre, must have exercised a most irritating and detrimental effect on the alimentary canals of those who unconsciously consumed it. To them it may be some little satisfaction to hear that 63 sacks of it were ordered to be burnt, and that the miller in whose possession the trash was found mulct in a fine and costs.

The *New York Tribune*, having recently instituted a searching inquiry as to the purity of the milk sold in that city, has come to the conclusion that most of the dairymen adulterate the liquid with water, and some of them with deleterious substances. Evidently, therefore, it must be as difficult to obtain a pure draught of model food in the commercial focus of the Great Republic as in London; and the idea thrusts itself prominently before us that it is a pity any of us were ever weaned, and thus cruelly deprived of the only form of nutriment placed by nature beyond the reach of the sophisticator. Our ancestors had a rough and ready method of dealing with fraudulent garblers of food and drink, which, if we may not resuscitate and introduce into the mild jurisprudence of Victoria, we cannot help recommending to Cousin Jonathan. Some such old-fashioned but effectual measures still linger in Switzerland, where, recently, according to the *Swiss Times*, the police of Friburg seized some forty cans of suspected milk. The contents were examined; the proportion of water was found to be unusually large; the "honest vendor," as our contemporary gently designates the offender and his fraud, "had omitted the cream;" consequently the whole was then and there upset on the pavement, and allowed to run away in the gutter. A few such summary examples here, coupled with handbills announcing the fact, and we would hear less of that dreadful mortality among hand-fed infants.

As is well known, the best cocoa is that produced from seeds grown in Venezuela, and called Caracas Cocoa. Much that is sold under this name, however, comes from Trinidad, and other West Indian possessions, from whence, indeed, the bulk of our demand is supplied. The growth of cocoa in Venezuela has of late greatly diminished, owing to the continual civil warfare, and, more than this, the quality has likewise deteriorated, from the fact of the introduction of seed from Trinidad, and known as "Trinitairo." This variety, though producing a seed of bitter taste and inferior quality, is much more prolific than the true native cocoa. Strong measures have been adopted for the purpose of preventing the introduction or cultivation of this variety, and it is said that "a proposition was made by the Minister of the Interior and Justice, to the Congress, in the year 1850, that any person detected in introducing the same into the eastern ports of the republic, in constant communication with the Island of Trinidad, should be subjected to corporal punishment." Notwithstanding this, the Trinidad seed is sown largely, and is now the staple product in many districts.

A REALLY good cup of coffee seems to be as difficult to obtain in London as it is common in Paris, and why? We grind our coffee; some foreigners crush it in a mortar immediately before infusion. To obtain the liquid in perfection the roasted bean ought to be swiftly reduced to impalpable powder, put into a filter bag and subjected to boiling water. Boiling secures greater strength, but at the sacrifice of the grateful aroma, which in itself is half the value to the connoisseur. It may not be generally known that freshly roasted and ground coffee, in addition to its power of superseding most other prominent smells by its own, is a powerful deodoriser. It appears to be specially active in destroying the effluvia arising from animal or vegetable decomposition; and cesspool gases are almost instantly absorbed by the presence of a few ounces, if highly roasted.

STRIKES among the London workmen seem to have lately assumed the form of a moral epidemic. As one trade with a real grievance gets locked out, another prepares to follow suit very much through the force of example, and not because there exists any serious topic of disagreement between masters and men. From this censure we must, however, except our working bakers,

whose duties are at once monotonous, exhausting, absolutely necessary to the community, and inadequately paid. Their chief grievances seem to be the labour of from 15 to 18 hours per day, and the obligation to toil on Sundays—if not actually making bread—in cooking dinners. Accordingly a strike is threatened, and should it occur and become general, we fear the inconvenience to the public will be very considerable.

In these days of dear meat, every scrap of information regarding the spread or decrease of cattle disease is of interest—either the cause of joy or sorrow. Thus we are told that one of the consequences of the Franco-Prussian war, in the consular district of Boulogne, was the breaking out of the cattle plague. "The measures taken by the administration to check the advance of this scourge were badly received at the commencement by the country people, amongst whom the rumour spread that no indemnity would be given for animals slaughtered, and tradesmen took advantage of public misfortune to make large profits, even in defiance of the regulations. The disease spread rapidly, but it was not till the commencement of December, 1871, that it crossed the circle of hills surrounding the consular district of Boulogne, when eight animals were slaughtered near Desores, about twelve miles from Boulogne." It is satisfactory to learn that no fresh case has since occurred, and that the disease is apparently dying out.

By recent advices from China we observe that the tea market for the past season had closed, and that Shanghai, known as the Model Settlement, had done its duty satisfactorily in the way of liberal supplies. The export, as compared with that of last year, was:—

To Great Britain.	Black tea, 8,473,000 lbs.	in excess.
,,	Green tea, 201,000 ,,	,,
To America.	Black tea, 1,311,000 ,,	,,
,,	Green tea, 1,958,000 ,,	,,

It is to be hoped that this large increase has consisted of really good, genuine tea, and not "Maloo" Mixture, of which we have been obliged to take notice, by illustrations and otherwise, in these pages.

NOTICES OF NEW BOOKS.

"Air and Rain:" The Beginnings of a Chemical Climatology. By R. Angus Smith, Ph.D., F.R.S., F.C.S., (General) Inspector of Alkali Works for the Government. Pp. 600. Longmans, Green & Co., London.

The publication of this book will, we doubt not, mark an epoch in the history of sanitary science. In it, simple methods are given by which frequent testings of any atmosphere can be made at a reasonable economy of time, and as aids, hundreds of results are given very valuable for comparison. The importance of such an addition to our means of attaining reliable chemical evidence as to the state of the air we breathe cannot be exaggerated. After the perusal of this work the reader feels fully convinced that air has entirely ceased to be regarded as the vague nothingness its gaseous, non-tangible state is apt to convey to the mind. Beginning with the detailment and consideration of the gaseous constituents of our atmosphere above the earth, the author takes his readers below ground. The portion on "The Air of Mines" is, for the most part, a report of the work Dr. Angus Smith performed whilst acting for the Royal Mines Commission, and glad we are to see so much valuable information rescued from the oblivion Government Blue-books are liable to suffer. Following this comes the narration of experiments bearing upon "The Air of Confined Places," which is concluded by some interesting physiological remarks. Up to this point—about one-third of the book—the gases engage the reader's attention. The non-gaseous, as studied by examining rain, form the next third, and the remaining third comprises the examination of air by means of washing by water, which allows of independence from rain, chapters on "solid bodies in air," an appendix relative to the effect of acids upon vegetation, and an excellent index. The volume is the result of half a life's labour, not written off at the present moment; but the several steps of advance are strung now upon the thread of observation, like beads upon a string. The several heads being so many different publications, we have the rare sight of an author compiling from his own writings. But this is no foundation for fault-finding; it is an inevitable result of the method of publication adopted. As a scientific exponent and guide for the future, it is best, indeed, that it should be as it is—a history of the beginnings of chemical climatology. A few lines from the author's preface sound the key-note of the whole work:—"Still I cannot forget that when I came to Manchester in the last year of Dalton's life, I was reminded of his saying that chemical experiment could not have distinguished the air of that city from the air of Helvellyn." . . . . "This volume will make clear how different the matter stands at present." These Beginnings do far more than distinguish between such extremes. For instance, they refine so far as to prove unquestionably the effect upon the air of a room only inhabited for a short time, and measure the degree of ventilation requisite. Properly applied, they are capable of giving the degrees of healthiness of different parts of a town, a county, or even a country, with a nicety of gradation that bids fair to greatly aid, perhaps supersede, registers of births and deaths. Had we returns of *disease*, along with returns of climatology furnished upon Dr. Angus Smith's method of testing, the nation would constantly be in receipt of sanitary data of the highest order for the maintenance of the public health. Some day, perhaps, we may attain to so advanced a state of civilisation. For the general reader, the work carries probably too many facts stated with the nakedness characteristic of scientific research to possess much interest, but to all in any way engaged with sanitary subjects, the facts, reasoning thereon and speculative remarks are matters worthy of close attention and

thought. Medical men, engineers, architects, builders, all will find facts and thoughts suitable to their several departments, whilst no board nor medical officer of health should be without this work for reference. As we may call Dalton the Father of Meteorology, so also may we award the high honour of the paternity of chemical climatology to Angus Smith. What the one did for the former, the other has done for the latter. Our space is limited, and we could not therefore attempt to review the book in detail: it is unique. We recognise in these admirably developed "Beginnings" more than a mere foundation. Certain divisions of the subject have attained very considerable altitude, and stand boldly out; but the range of enquiry is only equalled by its importance, and it is not to be expected every part should be equally advanced. Science has ofttimes laboured long and effectually for the benefit of mankind; this is but another addition made, at what expenditure of labour we can only guess. We believe whoever shall read Angus Smith's "Air and Rain" will agree with us that it is, indeed, an illustration of the words of Longfellow in his "Ladder of St. Augustine"—

> "The heights by great men reached and kept
> Were not attained by sudden flight;
> But they, while their companions slept,
> Were toiling upward in the night."

A Correspondent writes: "During the late hot weather (June 20th) my attention has been attracted more than once to the needless cruelties perpetrated upon live fowls in certain poulterers' shops within easy reach of the London markets. The birds are brought up from the country or purchased in the London market early in the morning, and crammed away closely in baskets for conveyance to the buyers' shops. Here, unless they be lucky enough to find a speedy sale, they are frequently allowed to remain in close confinement for days together. Presumably, they are turned out at night to feed; but, in more than one instance which has lately come under my notice, they have been exposed to the sun and the glare from the scorching pavement for 12 or 14 hours out of the 24, and for several days in succession, and so closely packed that it would have been impossible for them to drink, even had any one thought of giving them water. Upon one occasion I called the attention of the police to the subject, and was told that if their exposure was "a nuisance" my remedy would lie with the Local Board of Health! Surely a little pressure from influential customers would be sufficient to put a stop to such silly and inexcusable barbarity. In the interests of the public health—setting aside other higher considerations—might it not be worth while to apply the screw?"

The medicinal value of the dandelion *root* is well known in this country, and has long had a recognised place, not only amongst the nostrums of the "wise woman," who discovers the virtues of various herbs, but also in the Pharmacopœia, where it figures as *Liquor Taraxici*, and is of great service in certain conditions of the liver, but we do not appear to have discovered the use of the *leaf* as a spring vegetable. In America it is regularly cultivated in beds, and even market gardeners do not think it unworthy of notice, as it is very hardy, starts into leaf very early in the spring, and produces a good crop at a time of year when green stuff is scarce and valuable. Accustomed, as it is, to be treated as a weed, and ruthlessly spudded out when it dares to show its face in a garden, it repays kind treatment by throwing up an abundance of large broad leaves, which yield a good return, the forced crop sometimes fetching as much as 12*s.* and 14*s.* a bushel until the early spinach comes in, for which it is not a bad substitute.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

A GRAND SALAD.

Cooking is a fine art in Paris, and has its crowds of connoisseurs and amateurs, and, consequently, its exaggerations, its fantacies, in short, its dilettanteism. The following is the receipt given for a salad by the famous tenor Roger, who had it served at a dinner given by him in 1848 to his friend Meyerbeer:—"Take a balance," says M. Roger, who has just published the receipt, "assume the majestic attitude of justice, and mindful of the gravity of your mission, weigh without partiality or error the following ingredients:—*Reponce*, the root cut into pieces, an inch long, and the leaves cut small, 57 grammes; celery, 115 gram.; pickled gherkins, 65 gram; capers, 60 gram.; pickled onions, 42 gram.; white cooked beetroot, 70 gram.; red cooked beetroot, 70 gram.; truffles cooked, white and black, 100 gram.; endive, heart only, 85 gram.; Escarole, 150 gram.; cabbage lettuce, heart, 30 gram.; white haricot beans, cooked, 130 gram.; green French beans, cooked, 85 gram.; anchovy, 90 gram.; turkey wheat, estragon, or capucines, 35 gram.; one long pepper pickled, "as big as a nut" (a capsicum); cauliflour, boiled, 70 gram; potatoes, boiled, 150 gram.; herbs,—tarragon, *cerfeuil*, and *pimpreuelle*, chopped fine, 25 gram." The above was calculated for fifteen persons. The ingredients are to be placed in a bowl in the order given in the above receipt, the capers, beetroot, and herbs, are to be laid on the top. The mixture for the salad is given as follows:—2 teaspoonfuls of Bordin mustard; 1 tablespoonful of pepper; 1 dessertspoonful of salt; 9 tablespoonfuls of tarragon vinegar; 11 tablespoonfuls of olive oil of Aix. This is to be carefully mixed and finally sprinkled equally over the salad with a spoon; the whole is then to be covered with a plate, and left to stand for three hours, the salad to be turned over and mixed at the moment of serving only. This salad is better even on the second day than the first, says M. Roger, only none of it is ever left! "A salad like this," adds M. Roger, "is a grand harmony, and one should hesitate at nothing which can render service to our country. Posterity has a right to the works of genius." Now this has certainly more the air of an elaborate joke than anything else, but it is not so. The salad in question is known as *La Salade Boursault*, it has received the high enconiums of the late Alexandre Dumas, a famous gourmet, and it was only in honour of his celebrated guest that M. Roger called it *La Salad Meyerbeer*.

POTATO SALAD.

Any one who has eaten potato salad at a Parisian hotel will be glad to try it after he gets home. The following is a good formula for the simple but delicious preparation. Cut ten or twelve cold boiled potatoes into slices from a ¼ in. to ½ in. thick; put into a salad bowl with four tablespoonfuls of tarragon or plain vinegar, six tablespoonfuls of best salad oil, one teaspoonful of minced parsley, and pepper and salt to taste; stir well, that all be thoroughly mixed. It should be made two or three hours before needed on the table. Anchovies, olives, or any pickles may be added to this salad, as also bits of cold beef, chicken, or turkey if desired; but it is excellent without these.—*Journal of Applied Sciences.*

THE

FOOD JOURNAL.

THE NEW ADULTERATION ACT.

On the 10th August, prior to the prorogation of Parliament, the Royal Assent was given to a number of miscellaneous Bills, of which none are perhaps calculated to prove of greater benefit to the community than the "Act to amend the Law relating to Public Health," and the "Act to amend the Law for the prevention of Adulteration of Food and Drink and of Drugs." As very few persons are yet aware how stringent are the clauses of the latter Act, it may be well to give a brief summary of its provisions.

The subject of adulteration formed one of the chief reasons for the establishment of the *Food Journal*, and, while believing that the Act will require some amendment, we must express our satisfaction that, at length, a serious attempt has been made by the Legislature to prevent, or to punish, the falsification of food, and thus to protect the health of the population.

Under the new Act—1. Any person adulterating, or causing others to adulterate, any article of food or drink, by the addition of any injurious or poisonous ingredient, or who shall in any way adulterate any drug, is to be fined 50*l.* for the first offence, and on the second conviction to be imprisoned for not more than six months, with hard labour. 2. Any one who knowingly sells any article of food or drink mixed with anything injurious to health, or any kind of adulterated food, drink, or drug, becomes liable, for each offence, to a fine not exceeding 20*l.* and costs; and on a second conviction the name, address, and offence are to be published, at his expense, in such newspaper or in such other manner as the justices shall direct. 3. The addition of any substance whatever to any article of food or drink, or any drug, in order fraudulently to increase its

weight or bulk, without the fact being clearly stated, is declared to constitute adulteration. In future, therefore, every falsification, whether injurious to health or merely deceptive and consequently fraudulent, will render both manufacturer and salesman liable to serious punishment. Thus, more care must be exercised, henceforth, in the use of such adjectives as "real," "pure," and "genuine," or, rather, their application must be absolutely restricted to unadulterated articles, to avoid the risk of heavy fines, imprisonment and hard labour.

The Commissioners of Sewers in London, the vestries and district boards of the rest of the metropolis, the courts of quarter session and town councils in England, the grand juries and town councils of Ireland, and, in Scotland, the commissioners of supply for the counties, and the towns councils for boroughs, are empowered by the Act to appoint able analysts of all articles of food and drugs; and they are compelled to make such appointments when called upon to do so, either by the Local Government Board, for Scotland by one of Her Majesty's principal secretaries of state, or by the Lord Lieutenant or other chief governor in Ireland.

The machinery adopted for the working of the Act is as follows:— The inspectors of nuisances, of weights and measures, or of markets, are to be employed by the local authorities to procure samples of suspected articles to be submitted to analysis, and upon receiving a certificate from the analyst, stating that such articles are adulterated, are to make a complaint before a justice of the peace, who will issue a summons against the offender. The analysts are to make monthly reports of the adulterations detected. Purchasers, on the payment of a certain fee, may also obtain from the official analysts certificates of the purity, or otherwise, of any article, food, or drug.

Such are the principal features of the new Act, which we only trust may sound the death knell of "Maloo mixture," "Lie tea," coffee adulterated with coffin-dust chicory, tallow butter, "Jonathan," and a hundred other like abominations.

AUSTRALIAN MEAT.

At a moment like this, when the price of fresh meat, as well as that of bacon and ham, places it almost entirely beyond the reach of a large mass of the population, every serious expression of opinion respecting preserved meat naturally attracts attention.

The subject was brought before the British Association, section of Economic Science, by Dr. Edward Smith, who read a paper on the economic and nutritive value of the three principal preserved foods, namely — preserved milk, preserved meat, and Liebig's *extractum carnis*. Dr. Smith's estimate of the value of preserved milk and Liebig's extract is certainly very low indeed; and it can scarcely be said that his opinion of the economic value of Australian preserved meat is relatively much higher; at the same time he adds his testimony to that of all other scientific men in favour of this meat as being perfectly wholesome and containing all the elements of nutrition in the same proportions as English meat. So far Dr. Smith is in accord with the scientific world in general; but on the question of economy his opinions differ considerably from those of other people who have used these meats themselves to a large extent, or who have carefully calculated their relative cost as compared with fresh meat.

However, Dr. Smith does not declare Australian tinned meat to be uneconomical, for he says that the saving by its use in institutions now supplied with fresh meat at 7*d*. or 7½*d*. per lb. would not be great! That there should be any saving at all, say one halfpenny a pound, in such extreme cases, is a fact of immense importance; but other persons very capable of forming a true opinion, and placed in favourable circumstances for so doing, regard the matter in a very different light. They say that a pound of poor meat—and it must be poor meat that is purchased at the present moment for 7*d*. or 7½*d*. per pound—loses from 20 to 30 per cent. in the cooking, and as Dr. Smith admits that Australian meat contains all the nutritive elements of fresh meat, it is difficult to escape the conclusion that he underrates the economy of the preserved meat, even when compared with fresh meat at 7*d*. or 7½*d*. per pound. If this be the case, as we firmly believe it to be, what

must be the saving caused by using tinned meat as compared with fresh meat at a shilling a pound.

On this head we may quote the published opinion of Dr. C. A. Cameron, Professor of Hygiene in the Royal College of Surgeons; and Analyst to the City of Dublin, who says:—"I consider Australian beef and mutton to be more nutritious than the ordinary beef and mutton of the butchers, the former contains nearly 32 per cent. of solids or dry matter, whilst fresh beef and mutton (uncooked) only include 25 to 26 per cent. of dry matter. Australian meat does not contain bones or large cartilages, whereas the ordinary butchers' meat contains from 20 to 35 per cent. of bones and sinews. I think it may be said without the least exaggeration that ————'s Australian meat supplies good animal food at less than one-half of the price at which it can be procured in the form of butchers' meat . . . The saving of fuel which its use will effect will be considerable, for being already cooked, it only requires to be thoroughly heated. I may mention that the soups made from it are most nutritious; and as the staple ingredient of stews it would be impossible to discriminate between it and home produced beef and mutton."

We have not the slightest doubt that the opinions of Dr. Smith and Dr. Cameron are equally sincere, we have no knowledge of the relative experience of the two, but we are convinced that the opinion of the most capable judges approaches more nearly to that of Dr. Cameron than that of Dr. Smith. At all events we are quite sure that the introduction of the subject before the British Association cannot fail to draw increased attention to it; and we think it well to dwell with all possible emphasis on the fact that Australian meat is admirable food, and that Dr. Smith, while declaring this fact, pronounces it economical, although he questions the economy being so great as it is stated to be by others.

Against the ignorant, flippant expressions which we hear now and then among us, such as "I like to see the joint," "I like to know what I eat," etc., we protest energetically; the question is a serious one, one which affects the well-being of millions, and deserves the serious attention of sentient beings. We like hot-house grapes, but we do not like to pay three shillings a pound for them; we like fresh green peas, but we like "tinned peas" when we cannot get them green. We should like to see a leg of mutton or a sirloin of beef on every family table, all the year round, but, as that is scarcely to be hoped for at present, we should like to see a good dish of Australian meat there instead.

One process, referred to in the June number of this Journal,

holds out fair promise of the successful preservation of joints, poultry, and other provisions, in their entirety.

The subject is beginning to be understood by the public; it is forcing itself on the attention of all; and we thank "Mr. Punch," who did excellent service nearly thirty years since against the mischievous Corn Laws, for his late verses with the refrain—

"Oh! the boiled beef of Australia,
Oh! the Australian boiled beef."

One of the great obstacles to the general adoption of Australian meat is that, unless eaten cold, when it is excellent, it requires some little knowlege of cookery to manage it properly. It cannot be roasted, or baked, or boiled, like a fresh joint. Now, with rare exceptions, the wives and servants of England scarcely know how to produce eatable soups, stews, or ragôuts, except at lavish cost. An ordinary French cook-maid or *ouvrière* will produce a more palatable and more succulent *entrée* with the scraps pared off a joint than nineteen-twentieths of our, so-called, cooks can with the most expensive meats. Those who wish to get variety, to make the most of Australian meat, must take the trouble to learn to cook it; plenty of good recipes are published, and he who runs may read.

Considering the frightful waste of food in this country, and the discomfort of the dinners, not of very poor people only but of three-fourths of the population, if the adoption of Australian meat should teach mothers of families and servants something about cookery, deserving the name, it will be a veritable national benefit.

G. W. Yapp.

The Pods of Peas.—The pods of peas are commonly thrown away as refuse after shelling, or used only for feeding cattle or pigs; but when young and tender they are an excellent vegetable, very fit for being used in soups. There is a kind of pea called the Sugar Pea, the pods of which have only a thin pellicle as an internal lining, instead of the hard lining found in other kinds, and peas of this kind are boiled in the pod and used like kidney-beans. The pods of the ordinary garden varieties are, however, of equally delicate flavour, and the only, but insuperable, objection to their use as a boiled vegetable is the hard and unmasticable interior lining. They may, however, be used in soups, being, in the first place, boiled in a separate vessel until they can be easily rubbed to pieces. This is done by means of a wooden spoon, or similar implement, and the pea shells are then placed in a drainer having wide holes, with the water in which they were boiled, when the eatable part passes through the drainer with the water, and forms an excellent addition to soups; or a good soup may be made by merely adding to it a proper quantity of extract of meat, or of Australian cooked meat, and heating it a little. The strings and hard linings of the pods remain upon the drainer.

TURTLE.—Part II.

Under such adverse circumstances it is indeed astonishing that the turtle ever reaches maturity at all, and were it not that the Testudo race is so prolific, it must long ago have become extinct, and our sumptuous aldermanic feasts would have had to mourn the absence of their chief dainty. Yet, even with so many watchful and relentless antagonists, it has been reserved for man to effect the greatest havoc among the vast numbers of this interesting reptile. During particular seasons, at dusk, turtles in thousands resort to the affluents of the river Amazon in order to lay their eggs on the sands. The natives collect many of the eggs the following day, and toss them into wooden vats, where they are broken and trodden under foot. Afterwards mixed with water and exposed to the sun's rays, the natural oil of the eggs floats on the surface, is skimmed off, heated, and clarified, when it is ready for use. Although this "Manteiga da Tartaruga," or turtle-egg-butter, retains a fishy taste, it is much prized as a seasoning for food by the Indians, and even by foreigners who have become accustomed to its peculiarity.* By such wholesale destruction it has been estimated that formerly about *two hundred and fifty millions* of eggs were annually broken; however, the Brazilian Government now regulates the turtle-egg harvest, so that this wanton waste of other days is materially diminished.

The Indians practise five methods of capturing mature turtle:—turning over on the beach, hooking, harpooning, netting, and shooting; of these the latter is highly ingenious and demands even greater dexterity and skill than shooting a bird on the wing. The keen eye of the sportsman notes a faint ripple on the water; it is a turtle projecting the edge of its nostrils to breathe. Nothing more of the creature is seen, and that little only for a few seconds. Swiftly an arrow is shot upwards into the air with such accurate calculation that, describing a parabola, it descends vertically and transfixes the turtle. (Wallace). The arrow-head being loosely fitted to the shaft and attached by a long fine cord wound round it, whilst the turtle dives with the barb in its body, the string unwinds,

* Kidder and Fletcher's "Brazil and the Brazilians," p. 556.

the shaft floats and becomes a buoy, and the Indian is thus enabled to secure his prey. In the Brazilian markets most of the turtle exposed for sale exhibit the manner in which they have been secured by the square hole in the shell caused by the bolt.

It is an ugly blot on human nature that occasionally we find the least offensive of God's creatures treated by man with the greatest degree of barbarity. The "Chelonia Viridis," or common green turtle, is an instance in point, and the fair island of Ceylon a locality where may be witnessed, according to Tennant and other travellers, one of the most shocking, heartless, and revolting exhibitions of cruelty the world can show. At Jaffna the wives of the Tamil fishermen habitually cut off and sell portions of the turtle to their customers while the mutilated creature is yet alive. Tennant mentions that it is a common occurrence to see large numbers of turtle in the market place undergoing the horrible ordeal of dismemberment. The creature is turned on its back, in which position it is helpless, and the under shell or plastron is flayed off, exposing the motions of the heart, lungs, and viscera to view. A broad knife is then inserted close underneath the carapace, or major shell, after which the operator introduces her hand into the wound and scoops out the blood, which trickles slowly. Presently the blade is swept round, and the shell is entirely detached. Each buyer is now served with the part coveted, which is cut off the quivering animal and weighed. Successively the fins, with portions of the fat and adhering muscle are severed and sold, the miserable creature, meanwhile, by its violent contortions, the hideous rolling of its eyes, and continual snapping, evincing the keen agony it is enduring. Maimed and tortured the remains of the turtle may writhe in the sun's glare for hours, until some impecunious purchaser makes an offer for the heart or head, usually the last portions disposed of.

Beneficent nature, however liberal with her gifts, is rarely lavish, never prodigal to the same individual. If she endow the peacock with grace and brilliant plumage, she withholds the charming boon of song; if she bestow enormous bulk and strength on the elephant, she withdraws that untamable ferocity which would render this animal the most formidable of creatures; if she adorn one turtle with a marvellously tinted shell, and clothes another giant with toughest leather,* she bans them both as human food.

The "Testudo Imbricata," or Hawk-bill turtle, yields the finest

* "The Luth or Leathery Turtle, "Sphargis coriacea," the largest of the Testudo family, sometimes attains the enormous weight of 1,600 lbs., but its flesh is hurtful, causing symptoms of poisoning in those who venture to eat it."—Wood's "Illustrated Natural History," vol. iii.

tortoiseshell of commerce, yet, although its flesh is disagreeable and unwholesome, its eggs are pronounced delicious. On the other hand, the mighty "Testudo Viridis," sometimes measuring seven feet in length, and weighing 700 lbs., furnishes the most highly esteemed of all food, but yields a worthless shell. In neither case does the beauty of the shell in the one, nor the value of the flesh in the other, secure immunity from torture to the miserable possessors. The sufferings of the latter at the hands of the Tamil women have been alluded to; those of the beautiful Imbricata are not much inferior, except that they do not terminate in death. This poor reptile, in the islands of the Eastern Archipelago, is exposed to scorching heat, which loosens the thirteen plates of tortoiseshell from its back. Sometimes the natives, in their eagerness to secure the prize, kindle a fire over the turtle, but this method so injures the quality of the shell that, as might be expected, their cupidity and cruelty are punished by a deteriorated product. When the plates have been removed the turtle is liberated, and after an interval nature restores the armour, although of an inferior quality both as regards colour and thickness.

The "Tyrse,"* or soft-shelled tortoise of the Nile, although not much esteemed as an article of food, or as yielding any product of commercial value, is probably of as much, or even of more utility, to the Egyptians than the famed ichneumon, as it devours the young crocodile the moment it leaves the egg. The same variety is also found in the rivers of Carolina, Georgia, the Floridas, and Guiana. Its practice is to lurk among the tall reeds, whence it seizes its prey, consuming young alligators with avidity, but only to be in turn devoured by the old ones when discovered. Strange to say, the flesh of this variety is considered good food. But the fiercest marauder of the whole species is the "Trionyx," or snapping turtle, of America. It is the terror, not only of the smaller creatures which haunt the same locality, but frequently gives man good reason to dread its mutilating bite. Although not furnished with teeth, as indeed none of the Testudo family are, their jaws being simply invested with edged horn, like those of birds, its bite is as dangerous as would be the shear of powerful scissors, lopping off whatever it seizes. The redeeming feature of this ferocious reptile consists in the fact that, with the exception perhaps of the little "Emys Reticularia," or chicken tortoise, its flesh is the most delicate, tender, and richly flavoured of the whole tribe. The emys, an inhabitant of North American rivers, is ten inches in length, and

* Cuvier's "Animal Kingdom."

yields meat much resembling in taste that of a young chicken. It is in great request as an article of food, and is largely sold in the American markets.

In Europe,* unfortunately, the flesh of the turtle has ever been an expensive object of luxury, notwithstanding its cheapness at the spot of production; therefore, far beyond the reach of persons with modest incomes. Live turtles range in price from 8*d.* to 2*s.* per lb., and preserved at home in tins fetch 2*l.* per 4 lbs., equal to two quarts, besides 7*s.* 6*d.* for a small tin containing the green fat. From these quantities about six quarts of good soup may be prepared. The English market is supplied chiefly from the West Indies. On board the trading steamers flat wooden tanks are fitted up for the reception of the turtle, and by those means they are conveyed to this country in tolerable health. But although prohibited to the toiling million on account of its expense, it is some little satisfaction to know that on board ship, especially within the tropics, poor Jack is allowed his turtle; not as a luxury, but as a necessity. But for its healthful influence in purifying the blood from the contaminating and baneful effects of long continued salt provisions, many a ship's crew and officers must have succumbed to the fearful scourge of scurvy. In addition to its use as a concentrated and highly nourishing form of human food, and as an antidote, so to speak, to one of the most distressing diseases, turtle contains a valuable remedial charm against the ravages of lung consumption, "fell curse of the British isles," which alone would entitle it to the highest consideration. It supplies the principles of cod-liver oil in a much more agreeable and palatable form, and if it be more costly this arises solely from the supply never having been properly developed and economised.

But why should turtle not become the cheapest of all animal food? Many companies are in active operation in South America and Australia whose success in sending home cheap and wholesome tinned beef and mutton to this country in an admirable state of preservation is now a matter beyond dispute. If the vacuum, or other preservative process, has brought sound butchers' meat—which even abroad costs a definite sum to begin with—within the reach of the poorest, why should not turtle, the supply of which is practically inexhaustible and which costs nothing on the spot, be sold at home at as cheap a rate? It may be premature to suggest

* The only species indigenous to Europe is the "Testudo Gopher," or common land tortoise, which eats lettuce leaves and drinks milk with the greatest relish. The latter operation it performs by scooping up the liquid in its lower jaw, and elevating its head so as to allow the milk to trickle down its throat.

the shipment of turtle eggs kept in sand heated by steam on board our West Indian steamers, so that simultaneously with the vessels' arrival the lively young turtle would have been hatched; but surely there is nothing Utopian in the recommendation to preserve the matured reptile, at the place of its birth, by some similar process to those applied to beef and mutton. That the exportation of eggs and their incubation on the voyage is a feasible venture for the future—which only awaits our riper knowledge of the management of aquaria on a large scale, and success in introducing and growing the turtle grass* of the shallow creeks between the Gallapagos Islands, the reptiles' favourite food—we entertain some little doubt; but we have none regarding the prosperity likely to attend the immediate importation of turtle preserved in tins.

To the poor, pinched, faded seamstress, wearily pining and slowly perishing in the leaky and wretched attic of a Holborn slum; to the paralysed artizan of Clerkenwell or Bethnal Green surrounded by his gaunt and starving family, whose miserable apartment echoes no sound but the wail of despair and the hollow racking cough of approaching dissolution; to the indigent, struggling student everywhere, consuming at once the midnight oil and his lamp of life, and whose rounded shoulders and bent form too truly reflect the appalling shadow of the fell enemy which has fastened upon his vitals; yes, even to the wan and jaded city clerk immured in an unwholesome gas-lit cellar, or packed with a dozen others in some foul, confined, grimy den, whose long lean fingers can but feebly grasp the scratching quill; to each and all of these cheap turtle might mean health instead of disease, vigour in place of paralysis, and the elastic tread of renewed youth in room of the slouch of misery, and the dull eye of hopeless yet lingering decay.

William Cochran.

* It may not be out of place to mention that although the turtle is essentially a vegetable feeder it does not despise a meal of human remains. Captain Forsyth, in his "Highlands of Central India," states that "at one of the ghâts on the river Narbada, where the bodies of devout Hindoos are committed to the stream, ghoul-like turtles, monstrous fishes, and repulsive crocodiles batten on the ghastly fare provided."

Raiponce or Réponce.—This word which appeared in the recipe for a "grand salad" in our August number, where it was erroneously printed *reponce*, without the accent, has given rise to several enquiries; it is the French name of the campanula known in England as the rampion and formerly eaten in salads. We may add that *mâche* is our corn salad, or lamb's lettuce, *cerfeuil* our chervil, and *pimprenelle* our burnet.

THE FOOD-PRODUCING POWER OF THE UNITED STATES.

It is one of the consequences, perhaps one of the advantages, of our insular position, with no backwoods as an outlet for our surplus population, and with an area which is very limited in proportion to the people who have to be fed, that we are compelled to make the best of every acre of cultivated soil. Mr. Mechi, indeed, tells us that we are not doing anything of the kind; that we are mere bunglers, scratching the surface of the land, whereas, if it were really *farmed* as it ought to be, in these days of scientific agriculture, we might make our island produce double what it does. Perhaps Mr. Mechi is right, perhaps he is an enthusiast, but high farming is certainly very much easier on paper than in practice. To say nothing of the uncertainty of the seasons, there is a point beyond which the crop-bearing power which is developed by high cultivation ceases to manifest the same rapid rates of increase, and ultimately ceases even to be barely remunerative. This seems to be one of the many lessons which are taught by some extremely interesting experiments which have lately been carried on by members of the Cirencester Chamber of Agriculture, under the direction of Professor Wrightson, of the R. A. College, who has published the results.*

The liberal use of manure is abundantly repaid at first, but the rates of return cannot be indefinitely maintained. Thus, when 80 to 90 lbs. per acre of nitrate of soda were used, the average gain was 164 lbs. of wheat to every 100 lbs. of manure. When the dressing was doubled, the return was increased to 252 lbs. of wheat per 100 lbs. of manure; but doubled again, the result gave only an addition of 5 lbs. of wheat for 100 lbs. of soda. The extra dressing was therefore simply lost.

Practically, then, scientific farming is not so indefinitely extensible as some enthusiasts would have us believe; and though we may certainly still progress, and must not rest satisfied with anything short of what the utmost skill and science can do for us, yet it is

* Reports of Field Experiments, &c., reprinted from the *Wilts and Gloucestershire Standard*. Cirencester: Harmer.

very evident that the element of *area* enters very largely into the solution of the great food problem which is increasing so rapidly in importance every year, and this it is which makes our eyes turn so naturally to that great country on the other side of the Atlantic whose food-producing power seems practically unlimited.

But how little is that power developed as yet. As the details of the last American census (1870) have just been published, we are enabled to form some estimate upon this point, which may be interesting.

In the ten years that had elapsed since the previous census, the area of cultivated land in the United States had received an addition of 25,810,379 acres, an area which is only half a million short of the total of our pasture and arable land in England and Wales. The United States have, therefore, within the short space of ten years, *added* to their food-producing area as many broad acres as we possess altogether! If we go back another ten years, we shall find that in the previous decade the growth was still more rapid, fifty millions of acres having been added between 1850 and 1860, as against the twenty-five millions just mentioned, gained between 1860 and 1870; the slower progress in the latter period being no doubt fully accounted for by the disastrous influence of the civil war. This is expansion indeed! No wonder that the stream of emigration sets so strongly towards a land which is thus able to add to itself in ten years more than the whole cultivated area of the United Kingdom; and which, with very little larger population, has more than four times as many acres under crop, and even then is occupying less than one-eleventh of its area.

It is not easy, by the way, to say what the area of the United States *is*, but it is given in our English "Agricultural Statistics" for last year as having been estimated, in 1869, at 2,095,000,000 English statute acres. This includes the inland water surface, which is very large—the five great lakes alone occupying sixty million acres, of which considerably more than half belongs to the United States—though forming, after all, but a small percentage on the above vast area. Of this great total, there was of "improved" land: in 1850, 113,032,614 acres; in 1860, 163,110,720 acres; in 1870, 188,921,099 acres—leaving, therefore, even if we throw off the odd millions for the water surface, an area which is very little short of that of the whole of Europe, and, making the same deduction in both cases for mountain and barren land, presenting about the same amount of surface to be hereafter brought into cultivation as the needs of the world require it.

Let us now see what is done with this vast area, taking a few

leading details from the agricultural statistics which accompany the census tables, not because they present any very remarkable features in themselves, but merely because they enable us to realise something of the magnitude of the great food-reservoir, which, if it were fully developed, would be able to feed the world. Here are some of the leading crops, showing their rate of increase in *millions of bushels.*

	1840.	1850.	1860.	1870.
Wheat	85	100	173	288
Barley	4	5	16	30
Oats	123	146	172	282
Rye	19	14	21	17
Indian Corn	377	592	838	760

The population of the United States being 38,555,983 in 1870, against our 31,817,108 in April 1871, they have a harvest of 36,000,000 quarters of wheat, against our 17,000,000, taking an average yield. They raise, therefore, nearly 7·5 bushels per head of the population whilst we raise barely 4 bushels per head.

But when we turn from gross totals, and compare acre with acre, it will be seen that the British farmer gets a great deal more out of his land than the American farmer does; for whilst the former gets an average of 30 bushels to the acre, or even 50 bushels under high pressure, the latter seldom touches 20, and very frequently does not exceed half that, making on an average, perhaps, 14 bushels per acre. The same with barley and oats; the English farmer gets 40 and 50 bushels as an average of these two crops, the United States farmer gathers little more than half.

Farming, in the scientific sense of the word, is yet to come in the United States. It is the natural result of high-pressure competition for land in an old country; but in a new country like America, the "raw material," if we may use the expression, is too cheap to call out the full energy of the occupier. Nature does the work, why should art interfere? It is obvious, then, when we apply this consideration to the figures given above, that we have as yet but a very imperfect standard by which to measure the food-producing power of America. Not only have we a reserve of more than 1,800,000,000 acres to fall back upon, lying chiefly in the west, where the corn land is the best, but we have also to apply to the acres already in use, the same high cultivation which enables us to get 30 bushels out of the same extent of ground which in America produces only 12 or 14 bushels, thus at once doubling the area for food purposes.

Not that the whole of this area can be spoken of as available for corn; of course only a small portion of it is so, just as in our own case we only devote about eight millions of acres out of the twenty-six to corn crops, and only 43 per cent. of those eight millions to wheat, but the proportion may be taken as about the same, with the balance rather in favour of the United States as a corn-growing country. Moreover, "Man does not live by bread alone," he must have a variety of crops to minister to his wants, either directly as food for himself, or indirectly as food for stock; but we in this country are more interested at present in the corn-producing power of America on account of the facility of transport, and, looking at the rate at which our population is growing, whilst our own food-producing power is not capable of any very great development, we cannot be too thankful that we have such an inexhaustible store-house to fall back upon.

It is worth noting, however, as in some measure corroborating the statement just now made, that the agriculture of the United States is as yet very imperfectly developed, that whilst the imports of Russian wheat into the United Kingdom have for some time past shown a large increase, those from America have fallen off. Many causes have helped to bring this about which do not in any way affect the question of the safety of our wheat supply.

A far more pressing question with us is the meat supply, and the possibility of getting help from the west, now that steam has reduced the passage of the Atlantic almost to a certainty. This, however, must be reserved for another paper. Meanwhile, as we have referred to the agricultural statistics, it may be interesting to note the progress which the live-stock of the United States has made in the last two decades:—Value of live stock in 1850, $544,180,516; ditto in 1860, $1,089,329,915; ditto in 1870, $1,525,276,457, showing exactly the same check in the ratio of increase as was noted just now in the case of the land, and due no doubt to the same cause, the temporary interference of the war with all agricultural progress.

GEORGE WALTERS.

CHEESE manufacture is making active progress in Russia. In the department of Finland there are both butter and cheese factories on the associated plan, and the products sell much higher than the butter and cheese made on farms. The demand for improved dairy utensils has become so great that several establishments have been started to manufacture them.—*The Grocer.*

WELLS AND BURYING GROUNDS.

As England is still dependent to a considerable extent upon the water-supply afforded by wells, it may not be out of place to make a note of some inquiries made by M. Jules Lefort as to the effects of neighbouring burial grounds upon those receptacles.* The attention of the Académie de Médicine has been called to this matter in connection with the labours of a committee which it appointed to report on the best methods of preserving the public health from the dangers likely to result from burials on the battle-field. This gives special importance to the subject for unfortunate France, but the churchyard and the village well are not usually so far apart in English rural districts to warrant us in thinking that the matter has no concern for our own nation.

The source of all springs is the rain-water, which penetrates the earth to various depths according to the amount of permeability, but sooner or later finds its perpendicular course arrested by contact with an impervious stratum. This leads to lateral infiltration, causing those underground waters which man appropriates to his own use by means of the open spaces, which afford them outlet from their subterranean confinement. These underground currents are sometimes very lengthy; thus the artesian well of Passy is fed by one coming from the neighbourhood of Troyes, in Champagne.

These dark streams encounter in their course not only the remains of vegetable but also animal matter in a state of putrid fermentation. The azotised organic matter formed by the decomposition of muscles, viscera, and animal tissues generally is very soluble in water, and is also accompanied by ammoniacal salts, the last results of this decomposition. Hence, even in a long course, the water might retain some of this matter in solution, although whilst shielded from the action of sun and air it would retain its transparency and limpidity, and have only a very slightly nauseous taste and smell. But when it becomes exposed to the air, and the surrounding temperature is raised, the azotized matter enters into a fresh phase of decomposition, and its odour becomes disagreeable.

* M. Lefort's paper is printed in the *Moniteur Scientifique, Quesneville*, November, 1871, p. 796.

This is stagnant water. In France the law regulating the distance of cemeteries from habitations has never been thoroughly enforced. This was the case at Saint-Didier (Allier), where M. Lefort examined the well attached to the parsonage. The soil in its superficial beds is permeable, so that after some days of rain the graves are almost always bathed by the infiltering water. The well was not more than fifty mètres from the cemetery. The water when taken out had no disagreeable odour, as the temperature was only six degrees above zero. As the well was a very deep one, the water would never be higher than twelve degrees even in summer.

Notwithstanding this, it had a slightly unsavoury taste, which is not found in pure water. Ten litres evaporated to dryness left a dark grey residuum, a rather disagreeable smell, which, successively heated, changed to a blackish brown tint, and threw off a slightly empyreumatical odour. Another part of this residuum, when dried to 100° and treated with hydrochloric acid, gave off carbonic gas. A third portion, mixed with hydrate of lime, evidenced the presence of a large quantity of an ammoniacal salt.

It is evident that this well was, if not constantly, yet from time to time, under the varying influences of atmosphere, contaminated with water which had previously filtered through the graves in the cemetery. This is more conclusively established when we find that similar experiments with water from beyond the range of the graveyard infiltration did not yield similar results.

We commend these facts to the attention of all clergymen who have any acquaintance with churchyard wells, as we have no doubt they would wish to let the village Hampdens sleep in quiet, rather than swallow them piecemeal in their daily draughts. Civilisation has not achieved much in this matter. The cannibal has his dead friend or enemy properly cooked and eats him without compunction; the "heir of all the ages" waits until cadaveric decomposition has set in, and gulps him down in fragments. As a matter of taste we leave all to their own selection, but from a sanitary point of view we are not quite sure that the savage has not the best of the bargain.

W. E. A. A.

A Rival to tea and coffee is said to have been found in *guarana*, or the seeds of the *Paulinas Sorbitis*, which contain an active principle similar to that found in tea and coffee.—*Good Health.*

MANCHESTER FOOD MARKETS.

No. 2.

The same specialities which have made Manchester a great central mart for the supply of fruit and vegetables, obtain also in respect of almost every kind of food, and more especially as regards fish. Cod, ling, whitings, soles, haddock and plaice go, in the trade, under the general name of "white fish," and are the principal kinds which stock the Manchester market. They are sent from the east coast of Northumberland, from Durham, Yorkshire, and Lincolnshire, where the inhabitants of such villages as Eyemouth, Bilton, Newbiggin, Morpeth, Bridlington Quay, Filey, and Flamborough, mostly subsist on their cobble and net fishing. Supplies of white fish also come, but not so regularly, from the south-west coast of Scotland, also from Aberdeen and Wick, and even from the Orkneys. The inhabitants of these latter places had, until comparatively a recent period, when their respective localities had been penetrated by the inevitable railway, been unable to obtain a sufficient return for their industry. From Dublin, Houth, and Kinsale come cod, soles, herrings and mackerel, which for quality cannot be excelled. During the months of March, April, and May the supply of mackerel to this market far outweighs every other kind of fish. They are caught in enormous quantities off Old Kinsale Head. This mackerel harvest, which until the last few years was a hidden treasure, has now through the enterprise of speculative traders, and the wisdom of railway companies in running steamers direct to and from the fishing grounds, become most remunerative to all parties concerned. Herrings, which formerly were brought to market only at one particular season of the year, are now obtainable at all times. In January, February, and March, they are sent here from the Ayrshire and from the Fifeshire coasts. In April and May, from Stornaway, and Loch Boysdale. In June and July, from Howth, Arklow, and Ardglass. In August, September, and October, from the Isle of Man, the Yorkshire coast, and the east coast of Scotland. In November and December, from Yarmouth and Lowestoft, as well as from the east coast of Scotland. Thus has, may we not say, the providential development of the railway system been mainly instrumental in supplying the myriads

of workers in these great centres of industry, with a cheap and wholesome article of food.

The supply of salmon at the beginning of the year is almost exclusively from Ireland, as fishing commences there on the first of January; the price is then from 3*s.* 6*d.* to 5*s.* per lb. The Scotch rivers open from the 1st to the 10th of February, the supply is augmented, and the price comes down to about 2*s.* or 2*s.* 6*d.* per lb. In July, most of the Ribble Salmon are brought here. The Tees, the Eden, and the Lune are the only other English rivers which consign to this market; the price at Midsummer falls to about 10*d.* per lb., occasionally as low as eight-pence; five-and-twenty years ago salmon was sold at 5*d.*

Lobsters and crabs come in large quantities from Scotland, and are obtainable at all times. Mussels and cockles form not an inconsiderable article of traffic here. They are sent from Scotland, Ireland, and Wales, as well as some parts of the English coast. Vast quantities of mussels are also sent here from Holland, and in the coldest season even from Russia. The price of mussels runs from 3*s.* 6*d.* to 6*s.* per bag of ten pecks.

Hitherto, there has been no official record of the weights and quantities brought into the market, but it is known that there have been 2,500 boxes of mackerel, each containing 126, within the gates in one week, total *three hundred and fifteen thousand fish*. Of herrings there have been in the market in one week 3,000 boxes, containing each 500, and 5,000 barrels, each containing 600, a total of *four millions five hundred thousand fish*. These supplies are certainly large, but the reader must bear in mind what we have said at the commencement of this paper, and when we say that this market distributes what it receives to the inhabitants of Bolton, Bury, Rochdale, Preston, Accrington, Haslingden, Blackburn, Heywood, Ashton, Dukinfield, Glossop, Hyde, Newton, Stockport, Altrincham, Warrington, about twenty smaller places, and the pottery towns, beside its own population of (including Salford) half a million, the rapid disappearance of these supplies will not be very surprising. The enormous quantity of fresh herrings, sold at certain seasons of the year in Manchester are not, however, for immediate consumption. There are about a dozen curers in the city, and some of them, having a large business, are extensive purchasers, and the dried or "cured" article has, as may be supposed, a more extended circulation from this centre mart than even the fresh fish.

It may not be out of place here to speak of the gross mismanagement on the part of the smack owners of some of the ports named as contributing to the supply of this market. During the

last year, the authorities of the market seized and destroyed 75,640 lbs. of herrings, 995 lbs. cod, 592 lbs. plaice, 580 lbs. soles, 395 lbs. haddock, 336 lbs. ray, 50 lbs. halibut, 60 lbs. whitings, 150 salmon, 35 mackerel, and some other fish, making up in round numbers about 100,000 lbs. weight, beside 324 bushels of mussels, 48 bushels of cockles, and 380 quarts of shrimps. That fish should occasionally reach the market in an unwholesome condition, we admit is unavoidable; sudden atmospherical changes, and other influences cannot always be provided against; but there is no reason whatever why fish should be kept by those who catch them until they become putrid, and then sent to market. That this is done, the following list of persons fined by the Manchester Justices will show. We take the last two years:—*Great Grimsby.*—F. W., 10*l.* and costs.; C. A., 10*l.* and costs; T. H., 10*l.* and costs; T. H., 2*l.* and costs; J. N., 10*l.* and costs; J. B., 10*l.* and costs; J. B., 2*l.* and costs. *Hull.*—T. H., 10*l.* and costs; E. H., 10*l.* and costs. *Scarborough.*—C. D., 3 *months' imprisonment;* C. H., 3*l.* and costs; W. E,, 2*l.* and costs. These men are all buyers for the inland markets, and pack their goods and send them off as soon as they are purchased. It would be ridiculous to suppose the fish had become unwholesome in their hands. All, or nearly all, the fish which these men were fined for trafficking in, had been landed in a putrescent state.

And this is how it comes about. The smacks put to sea, the fishermen begin their labours, and the fish caught are tumbled into the well of the vessel, which is supplied with sea water. This goes on at each hauling in of the net, and continues until it is considered enough fish has been caught to justify the return of the vessel to port. Very frequently the smack is at sea above a month, catching small quantities of fish from the first, some of which have died a lingering death long before they reach *terra firma.* No matter; they must be sold, good and bad together, and sold they are. The purchaser is probably a man doing a good inland trade, and may be depended upon; he, therefore, sorts his purchase, packs up all the fish he finds in good condition, and sends them away to Manchester, Liverpool, Leeds, Bradford, and Birmingham. The fish unsuited to his trade he sells on the spot to some trader who has a different class of customers. They are again sorted, and most probably some are found too bad even for their new owner to send away. If so, they are thrown out, and sold for a mere trifle to one of the unprincipled fellows who are always hanging about, on the look-out for such bargains. These putrid fish are now put into "kits" or barrels, a fresh fish or two purchased to "top" them

with, and they are sent off to the large inland towns, probably to the same market to which the first and second qualities have been consigned, and by the very same train. But not to the same salesmen—oh, no! There are different grades of inland salesmen, as there are waterside consigners. The fish having reached the inland market, there is no difficulty with the first quality; if there should happen to be an over-supply, they will be good after lying in ice a day or two. The second quality gets into the hands of the lowest shopkeepers and hawkers. And the third!—These require a good deal of care, and a fair proportion of luck. Care must be exercised by the salesman in putting them "on" to a person who is going to take them out of the town, or one who won't "shout when he's hurt" (which means going to the inspector of the market, and "rounding" on the salesman), but who will "square it comfortably like a man!" when he finds the "goods" are too rotten for even *his* customers. The "luck" required is to enable them to evade the inspector. The price paid for the latter stuff is from fivepence to eightpence a stone of 14 lbs.; although we heard one high-principled peripatetic declare, some years ago, that he "would turn his back on anythin' 'bove sixpence a stun'." The men who send this putrid fish to market, seldom consign it all to one place, but divide it between three or four, on the principle of not entrusting all your eggs to one basket; the stuff may be seized at one place, and "run the blockade" at the others.

In prosecuting these waterside traders, the authorities of the city of Manchester have gone as far up the stream as the law will permit, but they cannot reach the fountain head. If the smack owners were rigidly prosecuted by their local authorities, this traffic in putrid fish would be impossible. At none of the ports mentioned is the inspection of fish anything but of the most superficial character; in most places it is "a mockery, a delusion, and a snare;" whilst at one place, at least, a system prevails which is as rotten and corrupt as the fish that are frequently sent from it. If smack owners, and other persons interested in their success, obtain seats in the town council, and get themselves appointed on a committee or jury to inspect the fish caught by themselves, or for their benefit, the public will properly estimate the value of their services, and admire the collective wisdom of the corporation which permits such things.

From the place alluded to, there is more putrid fish sent inland than, probably, from all the others mentioned above. An immense quantity of plaice, which would be seized if sent to a market, is consigned direct to the London fried fish shops.

That the smack owners do not adopt some plan, say by uniting in the cost of a small steamer to visit the fishing grounds, and bring in periodically, and in good condition, the fish collected from the boats, betokens a want of intelligence, and a lack of enterprise, which in these days is truly astonishing.

The Manchester fish market is very inconveniently situated, being at the extreme western corner of the city, and far away from the other wholesale markets; this, together with the fact of its having become much too small for the amount of business at present transacted in it, to say nothing of its being so circumscribed, that no more space can be obtained for the further development of the trade, determined the corporation to build a new one adjoining the great wholesale produce market, which should be in every way adapted for the requirements of the important business for which it is intended, and worthy of the city. In all large fish markets there are always two classes of traders. First, there are those who receive all their fish direct from the waterside, to sell on commission, and are called "salesmen." The other class consists of such as purchase of the salesmen to sell out in smaller quantities in the same market. These are called "bummerees." The term is not a local one; there are "bummerees" in Billingsgate, and other large fish-markets. What is the meaning of the word "bummeree"? Whence is it derived? We have never received a satisfactory reply to these questions, but our own theory is (having some acquaintance with those to whom it is applied) that it should be written *beau-maraud!*

Sometimes the "bummeree" develops into the salesman, generally speaking, however, they are an inferior class to the salesmen in business capabilities, general intelligence, and respectability and, consequently, do not as a rule, emerge from the grub, or get beyond the chrysalis condition, to spread their wings as autocrats of the markets. At present the "salesmen" and "bummerees" are mixed up in almost a higgledy-piggledy fashion, the market being so crowded that any corner which may be too small for the former is gladly seized upon by the latter, and the officers have occasionally to assert their authority to prevent something like "filibustering" and "annexing" on a small scale. At the new market the two classes will be divided by a broad street; in fact there will be two markets, and each class will have its own. The "bummerees'" market is already built. It has a frontage of 42 feet to Upper High Street, and 170 feet to Copperas Street, covering an area of 1,058 square yards. The main entrance is in Upper High

Street, under the centre arch (there being three), the head of which is filled by carving, the subject being the city arms. The Copperas Street elevation is composed chiefly of iron and glass. There are ten entrances from this street. The basement floor, which covers the entire area, is arranged in one large cellar for storage purposes, has an entrance in each street, and is well lighted by area lights in Copperas Street, and deck lights in the market floor. The market itself is lighted from the upper part of the roof and from Copperas Street, ventilation being obtained by raising a portion of the roof, and putting louvers in the vertical space thus left all round.

The market for the salesmen (the purely wholesale market) in course of erection, is bounded on three sides by streets. Its frontages are 119 feet, 169 feet, and 101 feet, and it covers an area of 2,080 square yards. The market floor will have a roadway, wide enough for three vehicles, running from Upper High Street, where the main entrances will be, to Little Stable Street, and from the roadway will converge footpaths. The basement is divided into 25 parts, including one general cellar which covers nearly half the area, and is approached by two wide stone stair-cases, one at each end. Eight of the smaller cellars have been carried down to a depth of 19 feet, and will have every modern arrangement for storing ice. Access to all the smaller cellars will be by man-holes in the market floor. The building is roofed in two spans, and supported by 21 cast-iron columns; the elevations on Upper High Street and Little Stable Street will be built of brick, with stone dressings, the latter material being very freely employed. Over the four main entrances there will be sculptured panels, 11 feet by 6 feet, illustrative of fishermen leaving and returning to port. The Edge Street elevation has been so arranged, that in the event of future extension the walling can be displaced without interfering with the structural parts of the building. The market will be adequately lighted both by the roof and from the streets, and the ventilation of the whole building will be thorough. Whilst the main idea in designing, has been to obtain the best possible arrangement for market purposes, still the architectural character has not been lost sight of, but has been brought out to a sufficient extent to give the dignity which such a building, for a city like Manchester, requires. The architects are Messrs. Speakman & Son, of Manchester, late Speakman & Charlesworth. The Markets Committee hope to occupy these two buildings in the autumn of this year.

In concluding this paper we may remark that the fish trade of Manchester, much as it has increased during the last dozen years, has not been developed to anything like the extent of its

capability. With butchers' meat at a price which almost precludes the hardest working of our population from tasting it; crowded as this city is, and surrounded as it is by families who religiously observe the fast days of their church, on which they partake of no flesh meat; with the steam-boat and railway facilities which we now possess for pouring in supplies from almost every mile of the coasts of Great Britain and Ireland, and abundant and exhaustless as is the yield of the ocean, fish has *not* reached the people in the quantity and condition it ought to do; and we say that it should become, if not the staple, at least a most important article in the food of the millions who crowd around our great centres of industry. Let us hope that the provision Manchester is now making will hasten such a consummation in its own district.

J. P.

A RECENT number of Streffleur's *Oesterreichische Militarische Zeitschrift* gives, upon high authority, the annexed comparative analysis of the daily allowance of food to soldiers in the armies of the following countries:—

	Weight of Solid Constituents in one Man's Daily Allowance (Salts excluded).	Proportion of Nutritive Matter to Total Weight of Allowance.	Proportion of Fatty Matter to Starch in Ditto.
Prussia,	626 grammes (22 oz.)	1 : 5·7	1 : 18·1
England,	676 ,, (23·8 oz.)	1 : 5·6	1 : 10·9
France,	677 ,, (23·8 oz.)	1 : 5·1	1 : 16.3
Austria,	693·7 ,, (24·1 oz.)	1 : 5·7	1 : 12·1
Belgium,	769·8 ,, (27 oz.)	1 : 6·3	1 : 12·9

These figures refer to the allowance in barracks, *not* in the field.

The Austrian free ration in barracks is as follows:—To each man, ½ (Vienna) lb. of fresh meat, with vegetables; 1 *loth* of coarse or ¾ of table salt; ½ *loth* of lard, or 1 *loth* of suet; ¾ *loth* of onions or garlic, and ½ *loth* of pepper per diem, to which is added, on two days of the week, 8 *loths* of peas or beans; on one day, 1 lb. of potatoes; Monday, 8 *loths* groats; and on two days, ½ lb. of seconds wheaten flour per man per diem.

FROM a report recently published on the trade of Monte Video, we gather some notion of the importance of the manufacture of "Liebig's Essence of Beef," better known as *extractum carnis*. The principal manufactory is at Fray Bentos, on the river Uruguay, and from this establishment alone, as many as 570,000 lbs. of the essence were produced during the eight months of the working season of 1871. To produce this quantity 122,075 head of cattle were slaughtered, and the estimated value was 330,000*l*. As a further illustration of the extent of these works, it is stated that the consumption of salt and coals amounted to 3,000 tons each, while 52 ships were exclusively employed to do the carrying business of the Company. It appears, also, that besides the manufacture of essence, an English Company has started, during the past year, a factory at Colonia, a small port of the Republic, for the preservation of meat in a similar manner to the well-known Australian product. Of this preserved meat, 1,000 cases, containing 72lbs. each, have been sent to England, and if sold at the rate of 4*d*. per pound will be, it is said, a remunerative trade to the exporter.

TARO:

THE SOUTH SEA ISLANDER'S "STAFF OF LIFE."

We who live within the limits of the temperate zone, where the products of the earth are but few in species, can scarcely form an idea of the profusion of edible roots and fruits which Nature yields, almost spontaneously, to the dwellers in the tropics. Between the fruit-market of Covent Garden and one in the West Indies, or in any Mexican or South American city, the difference is singularly striking. Here we see a few half-ripe, half-withered specimens of the orange, pine-apple, plantain, and banana, with a miscellaneous assortment of Brazil nuts, cocoas, and two or three species of the tribe of melons; there the eye roams delighted over a grand spread of tropical productions, apparently countless in number, and almost nameless in variety, suggesting the thought that Ceres and Pomona had poured out their *cornucopiæ* on the stalls of the fruiterers.

But even in the West Indies we do not see the entire fulness of tropical products. There is a part of the world to which Nature has been still more bountiful in her boon of vegetable treasures, or, at all events, where she produces them in greater profusion. This is the South Sea, or rather in the islands scattered over and gemming it like constellations in the azure field of the sky. In some of these the richest products of a tropical vegetation flourish in an abundance, and attain to a perfection, elsewhere unknown. Many kinds are of spontaneous growth; while others are articles of culture, more or less careful, according to the degree of civilisation to which the natives of any particular island have attained.

Of course all the South Sea islands are not of equal fecundity. In this respect, some—as the Fijis—are perhaps unequalled upon the earth. But in nearly all there will be found a producing power that will return a rich reward to the care of the cultivator; and, even without this, both field and forest yield enough for the sustenance of man.

In certain groups, yams grow to the length of six feet, weighing 100 lbs. each; and several varieties are cultivated. The common sweet potato ordinarily attains to the size of 8 or 10 lbs.; while

several other tuberous roots reach the like grand proportion. One, which is the produce of the "Massawe," or ti-tree (*dracœna terminalis*), and which is used by the natives as a liquorice, reaches a weight of between 20 and 30 lbs.; while the root of the *piper methisticum*, used in the brewage of an intoxicating drink called "yaqona," the *brava* of the South Sea voyagers, often attains to the enormous weight of 140 lbs.!

Bread-fruit grows in abundance throughout most of the groups; while in some of them there are nearly a dozen varieties of this celebrated tree, each producing a distinct kind of fruit.

Of the *musaceæ* there are many species and varieties, though in our markets we are accustomed to see only the products of two kinds—the plantain (*musa paradisiaca*) and the banana (*m. sapientum*). How different in some of the Pacific archipelagoes, where there are no less than thirty kinds, either of spontaneous growth or produced by cultivation, known to the natives, and indeed bearing distinct appellations.

In the South Sea Islands the varieties of the cocoa-palm add to the extraordinary abundance of vegetable food, as well as to the picturesqueness of the scenery; but there is no lack of lovely forms in the forest where the ti-tree grows, where the ferns and screw-pines flourish, where plantains and bananas unfold their bright leaves to the sun, where arums open their fronds, mingling with the thick succulent blades of the bromelias, and where pawpaws, papuna apple-trees, shaddocks, oranges, and limes exhibit their foliage in every shade and hue of green.

It would be safe to assume that there are not less than a thousand species or varieties of edible roots and fruits produced in the different archipelagoes of the Pacific; so that even the briefest mention of each would occupy the space of many pages. There is one, however, deserving of a detailed description. It is that whose name stands at the head of the present article—the "Taro" plant. It is, perhaps, more entitled to this distinction than any other product of the Pacific isles, since more than any other may it be called the "staff of life" to those who dwell upon them; and in this light do the South Sea Islanders regard it.

The taro plant is a species of *arum*, by some botanists called the *arum esculentum;* though this is but a vague designation, since there are others of this genus that produce edible roots. It is a plant of no very conspicuous or showy appearance, but rather the contrary. Its leaves are of a dark-green colour, traversed by veins of a dull whitish hue, and having a striking resemblance to the common American "skunk cabbage," for which, at a distance, the

taro plant might be mistaken. Its odour, however, though far from being sweet, is not so offensive as that of the plant in question. Although the flowers of the taro plant are not sufficiently showy for it to find a place in the gardens of the native chiefs, it is certain to figure in the cultivated patches laid apart for their "farms." It is in its large tuberous root that the value of the taro lies; and this varies in size, according to the ground in which it grows. It is usually of several pounds weight, though some are so large as with difficulty to be squeezed into a three-quart pot.

In shape the taro root is something like an oblong turnip or beetroot, terminated abruptly, as if the smaller end had been cut off. It is of a brown colour, brighter when young, and becoming deeper in shade—approaching nearly to black—as the plant grows older. Its somewhat thickish cuticle is closely beset with little knobs or protuberances, from which extend fibrous rootlets or appendages, giving to the whole mass a ragged stringy appearance.

The native mode of cultivating the taro is altogether original, and even more singular than the appearance of the plant. A large tract of ground is selected near the village, in such a situation as to admit of being flooded with water from some neighbouring rivulet or stream. The ground is first levelled, and then laid out into square patches, each one being assigned to a single family. The patches are larger or smaller, according to the number of individuals in the family. Usually a superficial area of two or three square rods is deemed sufficient, though sometimes the allotment is double this size; and each may be looked upon as a *farm*, if not in size, certainly in the quantity of its product. Between the patches there is left a neutral space of several feet in width, which gives access to the taro beds, or ponds, as they might be more appropriately termed. This obviates the necessity of treading among the plants, and each individual has the "right of way" to his own particular patch, without, trespassing upon that of his neighbour. After the allotments are made, each proprietor enters upon his own, and digs the ground out to the depth of at least two feet. The excavated earth is thrown up on the spaces between, where it is packed down hard, and forms raised causeways or paths, along which the interior patches may be conveniently reached by their respective owners.

The bottom surface of the square pit thus made is pierced all over with holes, till it resembles a great sieve. These holes are in regular rows, and in each is planted a young "taro," with the earth pressed firmly around it. Then the water is let in, till each

pit becomes a little tank or pool, when the "farm" is left to take care of itself.

By the time the water has become partially lowered, through natural evaporation—though it is never allowed to get altogether dry—the plants will have attained their full size, and the crop be ready for gathering. But the harvesting is not all done at one time; on the contrary, it may be said never to come to an end; and this is perhaps the most curious process connected with the cultivation of taro.

When ready for gathering, the proprietor enters his patch at one corner, and pulls up as many roots as may be needed for the day. After pulling them, he cuts off the tops, and replants the latter, each in the hole out of which its root has been taken. Day after day he repeats this process—or as often as taro is needed for the table—taking the rows regularly as they stand, until the whole "farm" has been gone over, and none of the original roots remain. Of course a considerable interval has elapsed since the first pulling, and the tops then replanted will have gained fresh roots, which have become, by this time, as large as those first garnered, and in every way equal to them as an article of food.

The plants are now a second time divested of their radical appendages, and again replanted, to produce fresh roots as before; and in this successive way is the planting and pulling repeated, from season to season, and from year to year, there being no winter in the genial climate of the South Sea to check or stay the progress of productive nature. Like the maguey plantations of the Mexican table-land, a taro patch in the Pacific Islands, once established, yields for ever after, without much given to it of care, cost, or labour. Perhaps, for this reason, as much as any other, the taro root has become the "staff of life" to a people naturally indolent in their habits, and who prefer following the finny tribes of the deep, or going to war with one another, to engaging in the culture of a soil that yields nearly all they want spontaneously.

The taro roots when gathered are not ready for the table. They must not be eaten raw, and any one who should venture on the experiment of so consuming them would run a serious risk of being surely and swiftly poisoned. Even a taste of taro in this condition causes a sharp contraction of the fauces, with a pungent prickling sensation, such as is felt in chewing cayenne pepper.

There are two distinct processes by which the taro is prepared for eating. One is by the ordinary mode of boiling, as potatoes are boiled, with the addition of salt thrown into the water.

Of course the roots are stripped of their rough cuticle and fibrous appendages. The boiling extracts the poisonous juices, and renders them innocuous. After being boiled, the root—now of a fine white mealy appearance—may be eaten as a yam or sweet potato. The more general practice, however, is to mash or pulverize the taro into a floury substance, and afterwards, mixing it with water, make batter-cakes of it, to be frittered in lard. When thus prepared, the taro may easily be mistaken for pancakes made of the best flour.

The above are the processes of preparation in use among the foreigners or whites, who have chosen the South Sea Islands for a permanent residence. The native mode of cooking the taro is altogether different, and to a stranger much more interesting. So far as the peeling, boiling, and making it into a batter, the native process is the same as that used by the foreigner; but beyond this everything is different. Instead of forming the batter into cakes, and frying those that are to be immediately eaten, the natives deposit the mass in a large gourd shell, and there leave it for several days to get bitter and sour. When it has attained that degree of acidity, which is sweetness to their palates, the mass is poured into a flat wooden dish, and the family gathers around it. Squatted upon the ground, each individual is provided with a piece of dried fish, which he or she holds in one hand, while in the other is a calabash or cocoa-nut shell containing water. The dish is a large family affair, known as the "poa dish;" for the taro in its cooked condition becomes *poa*. There is neither knife, fork, nor spoon employed in the eating of this viand; for all three, fingers are the substitutes used, and with these primitive utensils is the poa conveyed to the mouth. The arm is extended to the great dish; the fore and middle fingers are thrust into the mass, a portion of the spongy stuff is taken up, and, with an adroit turn, wound around the extremities of the digits, and then quickly deposited between the lips. A morsel of the dried fish follows; the fingers are dipped into the water vessel, washed clear of the sticky stuff, and so made ready for a fresh "dab" at the dish. The alternate daubing and washing of fingers is continued until either the appetites of the poa-eaters are satisfied, or the dish is scraped clean.

Alas! for the feminine portion of the family. Often, when all is over, their appetites are not satisfied; for in most of the islands there is an ancient law condemning them to use only *one* finger in taking the poa from the dish. In consequence of this legal disability they are often cheated out of their share by their lords, who usurp the right of employing two fingers, with sometimes the

addition of the thumb. Surely in the South Sea Islands a Woman's Rights Association is much wanted!

There are two distinct species of the taro plant growing in most of the Pacific archipelagoes, both affording edible roots. They are distinguished as the "lowland" and "upland," the latter so called from its growing upon hills and mountains. The upland plant can be cultivated without flooding it with water, as requires to be done in the cultivation of the lowland kind. The root of the upland, moreover, will keep much longer than that of its kindred species. Some of it carried out to sea has been found good after a two months' voyage; while the lowland taro gets spoiled, and becomes quite uneatable in as many weeks.

MAYNE REID.

A CORRESPONDENT of the *Echo*, says:—"As you seem to be exercised by the question of the best mode of preserving meat, allow me to state what I know on the subject. There are two ways of preserving meat:—in one it is converted to salt meat, and in the other the fresh flavour is preserved. The former mode is well known, and it is the latter only on which there is any question. Well, fourteen years ago, when I was in a very out-of-the-way place in the East, living far removed from all meat markets and tinned meat stores, I found the following plan in use, by which the fresh flavour of meat was preserved for months. The meat was cut up into convenient sizes, just sprinkled over with salt, and then put into a cask between layers of saltpetre. When required for use, a piece was taken out, well washed, and cooked, and it was as good as if just killed. This mode is easy and simple, and inexpensive.—Yours truly, A. M. C."

SEIZURES OF UNSOUND MEAT IN THE NORTH OF IRELAND.—The authorities in the North of Ireland have been unusually assiduous in suppressing the traffic in unwholesome meat; and though the penalties imposed are slight as compared with the fines inflicted in England for similar offences, there is reason for believing that the steps taken have produced a salutary effect. Patrick Neill, a Lurgan butcher, offered a carcase of beef for sale in Belfast, which three market jurors and an inspector condemned as totally unfit for the food of man, expressing a belief that the animal had died from inflammation. Neill had given, according to his own statement, 5½*d.* per lb. for it, whereas good beef could not be obtained under 7½*d.* or 8*d.*, the retail price being from 9*d.* to 11*d.* per lb. The Bench ordered the meat to be destroyed, which was equal to a penalty of 6*l.* 10*s.*, the price given by the defendant for the animal.—The inspector in the same town seized two boxes containing four quarters of beef at the station of the Northern Counties Railway, of such an offensive character that the officer would not ask the magistrate to look at it. The name of the consignor could not be ascertained. The meat was destroyed.—A man exposed a dead pig for sale in Ballymoney Market, which was totally unfit for the food of man. When before the magistrates the defendant *naïvely* said, "The pig did not die of any disorder. It had been kept closed up, when it got out it bursted, and when the man was brought to kill it it was dead before he came, and it did not bleed." The Bench ordered the pig to be buried, and fined the defendant a nominal sum, threatening to impose a very heavy penalty in future.

MARKETS OF THE MONTH.

Butchers' meat is still very dear, notwithstanding the numerous meetings and demonstrations against the present high prices, and in view of the increased obstacles placed in the way of the importation of live cattle from Europe, in consequence of cattle plague, it is to be expected that it will, if anything, be dearer and scarcer than ever. It is to be regretted that the poorer classes cannot be induced to regard with more favour the wholesome, palatable, and nourishing meat sent over from Australia in tins, as anything which tends to reduce the demand for fresh meat would have a tendency to prevent a rise, if not to lower the price. We may look to Ireland for considerable assistance; the vast extent of pasture land in that country is but half stocked, and although of late years our importation of cattle thence has increased enormously, there are still, we are told, thousands of acres of rich pasture land, which might annually produce thousands of tons of beef and mutton, lying, comparatively speaking, idle for want of the capital necessary to stock it properly. There can be no doubt that the breeding of cattle in Ireland for the English market is a source of wealth capable of, and gradually undergoing, vast extension; it is equally true that meat salesmen and butchers with capital, as well as colliery owners, are at present deriving a much higher percentage of profit, under colour of increased expenses, than they did a few years ago.

Poultry has followed the example of everything else, and is dearer than usual at this season; prices are about the same as last month. Grouse has come to market in considerable numbers, and unlike everything else, may be quoted as cheaper than at the commencement of last season. The first day or so dealers were asking from 8*s.* 6*d.* to 10*s.* 6*d.* per brace, but they are now very much lower.

The fish market presents but little worthy of notice; soles have been very scarce and dear, good sized fish often making from 2*s.* to 3*s.* per pair; salmon is no cheaper than last month. White herrings have just arrived in market.

The season has been favourable to the growth of green vegetables, as well as of mushrooms; the latter "buttons" have been selling for 6*s.* a peck for preserving. Greengages, as anticipated,

have come in more plentifully than was expected, and though the Kentish orchards are said to be perfectly destitute of apples, in some parts of the country the trees are laden. Early apples have been making 8*s.* per bushel; plums have fetched high prices—20*s.* per bushel; greengages have been slightly cheaper; walnuts in England are almost universally a failure, hardly any could be procured at the usual season for pickling them; Naples lemons are making from 30*s.* to 33*s.* 6*d.* per case; Messina from 22*s.* 6*d.* to 27*s.*; Valencia oranges, 42*s.* to 45*s.*; Lisbon, 42*s.* to 44*s.*; Kentish filberts, 100*s.* per 100 lb.; French, 43*s.*; peaches and nectarines, from 9*d.* to 1*s.* 3*d.* each; figs, from 4*s.* to 6*s.* per dozen; plums, victoria and black diamond, from 8*s.* to 10*s.* per sieve; pears, 7*s.* 6*d.* to 16*s.* per molly; Belgian, 7*s.* to 8*s.*; chillies for pickling, 2*s.* per 100; hothouse pines, 7*s.* to 10*s.* per. lb.; grapes, 4*s.* to 6*s.*, Muscats, 5*s.* to 7*s.*, Jersey, 1*s.* 9*d.* to 2*s.* 6*d.*; Spanish water-melons, 18*s.* to 22*s.* per dozen, Dutch rock, 15*s.* to 20*s.* per dozen, English frame grown, 4*s.* to 6*s.* 6*d.* each. Pears of the choice sorts, as Williams, Bon-curé, and Duchesse, are now arriving from France. Lisbon grapes, white, are making from 26*s.* to 28*s.* per box; Portugal onions, from 12*s.* 6*d.* to 14*s.*; Lisbon tomatoes, from 11*s.* to 14*s.* Potatoes are making good prices; the season, it is to be feared, will be bad; almost a total failure of the crops is to be apprehended in many districts. It is expected that the year will prove the worst potatoe year we have had for some time. In some places barely one bushel in ten is fit for food.

The sugar market is steady. Butter is getting dearer, as also are eggs. The corn market is quiet, but farmers who can hold their corn will make better prices shortly, for if the potatoe disease should prove very disastrous, a rise in the price of corn will result. The harvest in France has been unusually abundant, and our own has been a fair average one.

The prices of coal are increasing, and what with dear meat, dear coal, and dear potatoes, the poorer classes will fare badly, it is to be feared, during the ensuing winter. Let us hope that bread may not be much dearer than at present. In fact, this report might have stated in a very few words that markets are rising, and that, too, without any immediate prospect of their falling.

P. L. H.

A BUTCHER residing at Bootle, named Robert Smith, was discovered selling the flesh of a pig which had died from scarlatina. He was fined 5*l.* and 1*l.* 17*s.* costs.

NOTES OF THE MONTH.

When will the British matron cease to be prejudiced, and open her eyes to the conviction of facts? How long will it be ere our housekeepers become convinced that they, at present, spend two-thirds of the money on the butcher, which might be saved by the use of Australian and New Zealand preserved meats? It cannot be that facts are either scarce or indifferently authenticated, as every newspaper teems with encomiums in favour of the colonial product. One contributor to the *Pall Mall Gazette* recently says, "I had heard serious reports of the proportions of our English joints contained in the bone, or going up the chimney in the process of cooking, so I had a trial made, with the following result:—Leg of mutton before roasting, 9lb. 10 oz., after roasting, 6lb. 12 oz. Weight of cooked meat, 4lb. 13 oz.; of bones, 1lb. 15 oz.; gravy, 10 oz. At this rate, if your housekeepers pay 9½*d.* per lb. for their leg of mutton, they will find that the slice of cooked meat on their plate costs them about 19*d.* per lb., unless they make very good use of the bones and small modicum of gravy. Such is the rate which we ought to compare with Australian meat at 6*d.* or 7*d.* per lb." Surely the advantage of purchasing cooked meat, free from bone, secured against waste, and costing 6*d.* per lb. less than raw meat (which always carries with it a large per-centage of bone, and much of which disappears into thin air, during its preparation for the table) ought to dissipate the British matron's prejudice, and open her eyes to the realisation of her own interest.

Fortunately, in this country, we do not usually suffer from the evil effects of malaria, as they do in the East, yet we believe there are many marshy districts in our islands which might be rendered more salubrious than they are, were the *Helianthus annus*, or sunflower, extensively planted. This vegetable is largely produced in India, and possesses the peculiarity of apparently growing equally well on marshy, poor, or rich soils, although under favourable circumstances it yields a superior crop. Its presence in a growing state, is considered an antidote to the miseries of marsh-fever which, indeed, it is said entirely to prevent. The edible kernel is described as good food, besides yielding 15 per cent. of a mild oil, and the leaves are recommended as nutritious fodder for cows.

When quaint old Tusser wrote his "Five Hundred Points of Good Husbandrie," and chronicled that—

> "Beefe, mutton, and porke, shred pies of the best,
> Pig, veale, goose, and capon, and turkie well drest,
> Cheese, apples, and nuts, jolie carols to heare,
> As then in the countrie, is counted good cheare,"

he could scarcely have been aware of a dish which for simplicity, economy, and savoury taste and flavour, may be said to have no equal. Whilst the materials are both homely and popular, the combination itself comes to us from the lovely tropical island of Mauritius, and is as follows:—Select a large, mature and firm cabbage, from which the coarse outer leaves have been detached, and the stalk chopped off; scoop out the heart, fill up with minced meat, bread crumbs, onions and seasoning; fasten up in a cloth, plunge into boiling water, and boil for half-an-hour. A savoury viand of Nature's own suggesting (for it is indebted to no delicate culinary legerdemain)—such a dish, if properly cooked, ought to recommend itself equally to the poor man and the epicure.

The genuine Londoner has long ago earned a character for patience and indulgence towards any custom time has hallowed, which does more honour to his heart than his head. In no other city in Great Britain or Ireland would the inhabitants tolerate, for a single hour, the obstructions to traffic, and the risks and inconveniences to which the man of business, who escapes being run into or over, is exposed every hour of the day. We shall not allude to the incongruity of nursery maids, with babies in perambulators, leisurely patrolling the busy and contracted thoroughfares of Leadenhall, Gracechurch, Fenchurch, and even occasionally invading the commercial privacy of the Lane itself, because we sympathise with every city-born infant, and only wish its lines had been cast in pleasanter places. But we wholly object to be continually jostled off the footpath at almost every corner, by some meat-loaded butcher's boy, careering wildly along like an insane dromedary with an eye on a distant cactus. Equally do we object to stumble, every now and then, over the numerous stretched ropes used for lowering beer-barrels into publicans' cellars, especially during business hours. Yet most intense of all is our repugnance towards the custom which sends forth the stalwart, although usually melancholy-looking, milkman morning and evening to swagger between his ponderous lacteal reservoirs, and monopolise our too-narrow lanes. Of all the foolish remnants of a past age which we

still endure, this seems to be one of the most imbecile. In other parts of Her Majesty's dominions, the morning and evening supply of milk is rapidly conveyed from door to door in light spring carts, drawn by fast trotting ponies, whose arrival is announced by the vigorous ringing of a hand-bell, while the milk is secured from dust and interference in handy well scoured barrels, from which it is drawn by means of a tap. The London milkman, by occasionally leaving his cans unprotected at street corners, almost invites the trick of the practical joker or viciously inclined, and offers a temptation to the poverty-stricken Arab to which he ought not to be subjected.

We have heard of freaks, both of *gourmands* and *gourmèts*, some eccentric, like the venerable Bishop, who, hearing that the cook had cut off the fins of the turbot, went down to the kitchen and tenderly sewed them on with his episcopal fingers. Some disgusting, like Captain Cochrane's well-known Yakuti, who, although he had just breakfasted, ate 28 pounds of rice porridge, and exhibited no more inconvenience than slight distension of the stomach; others tragic, like the railway porter, who drank methylated spirits of wine dropping from a cask and died, as stated in the daily papers, "raving mad." But the greatest novelty of all is a man committing murder because he was not supplied with his favourite dish at a *restaurant*. It appears that a man named Gérard, went into a *café* kept by a widow at Vintry-la-Ville, and called for a particular dish. On being told that it was not to be had, he became most violent, and on the landlady remonstrating with him, he seized a knife and stabbed her several times. The customers interfered, and he turned his fury on them, wounding seriously three women and three men; the last he struck was a young soldier just recovering from a wound received in the late war; the blade having broken in the skull, the assailant took up an iron bar and attacked an elderly woman, the mother of the soldier, and an old man of 72. The whole affair did not last more than five minutes, and the ruffian was at last seized by three men, and handed over to the police. As extenuating circumstances can scarcely be set up in this murderous defence, the popular and fashionable answer to murder cases, of insanity must be urged. We have had many special "manias" lately, from "Cleptomania" and "Dypsomania" to "Melancholia," and we, therefore, suggest to the learned in madness, to have a "Cibo-mania" as soon as possible, lest some compatriot should follow this Frenchman's example.

"Rattle his bones over the stones, he's only a pauper whom nobody owns." So seem to say the Whitechapel guardians, who bury their dead in a rough deal box costing 1*s.*; but so do not say the Lewisham guardians, who give 36*s.* per funeral. It is to be sincerely hoped that the 36*s.* style is more comforting to the dead pauper than the 1*s.* fashion; but, if we judge from the report lately published on workhouse expenditure and its results, it is very much the same what the guardians pay, for the pauper suffers all the same. This is especially evident in the matter of the food supplied to workhouses, which really seems to be of a most scandalously inferior and adulterated character. We will not nauseate and disgust our readers by the long detail of miserable disclosures of "common mixture! not sherry," "corn and potatoe brandy," "refuse dust mixed with spurious leaf" at 4*d.* per lb., or "low soft brown sugar," but we will simply give a description of the butter, as a specimen of other articles in the pauper's dietary. As to this article of luxury, the reporter says:—

"The examination of the butters, carefully made from the chemist's point of view, and by a butter salesman from the commercial point, testify to the very inferior quality of the article generally supplied. This testimony is fully borne out by the opinions passed upon the spot by those with me who tasted the butters. It is difficult to get rid of the idea, that a considerable proportion of the workhouse butter consists of animal fat, horse fat, of which large quantities are shipped off regularly to Hamburgh, to return 'made up' into what is termed in the trade 'bosh butter.' On the whole, I am not surprised to find that some inmates of workhouses prefer dripping to butter upon their bread."

Sensible paupers! we commend their discretion, in eating fat of which they know the origin, in preference to the mysterious, oleaginous mess offered to them as butter. But is it not a scandal that such things should be possible even in the case of paupers?

It is so rarely that we find a valuable medicine and an agreeable and palatable food adjunct combined in the same substance, that we make no apology for calling attention to Dugong Oil. In the Queensland Annexe, at the present International Exhibition, during a recent dinner, the guests were regaled with pastry made with Dugong oil, which was pronounced excellent. It appears, too, that Dr. Holt, of Brisbane, attributes to this fluid all the medicinal and nutritive properties usually found in good cod liver oil, and alleges it to be equally efficacious in all phases of tuberculous disease. Considering that to many weak stomachs even the flavour of cod liver oil is altogether repulsive, this new Queensland product will prove a boon of no ordinary value.

AT the Dublin Police Court, August 10, Mary Collins, dairy-owner, was summoned for selling adulterated milk. Dr. Cameron was examined, and stated that the milk in question was adulterated with 75 per cent. of water. The magistrate imposed a fine of 5*l.*, with 3*l.* costs, and directed the name of the offender to be advertised at her own cost in a newspaper. At the same time Patrick Collins, dairyowner, was summoned for a similar offence. Dr. Cameron stated that the milk contained 60 per cent. of water. As this was the defendant's first offence he was fined 3*l.*, with 2*l.* costs. These are substantial fines for people who have to make their living by the sale of milk, but we must say the penalties were both well deserved. The adulteration of milk in Ireland is carried on to an enormous extent, and it is strange how ineffectual are the steps taken by local authorities, more especially in the north, to suppress what is nothing more or less than a vile imposition. The poorer classes are bound to substitute milk for more expensive beverages, and in all fairness that milk should be consistently pure; but when the vendors of so important an article literally drown it with water, and that sometimes none of the best, we consider it a crying wrong to the public at large, and an offence that should meet with ample punishment. If purveyors of milk cannot find it consistent with their ideas of profit to retail it at 3*d.* or 4*d.* per quart, let them raise the price as is the custom in other trades, and not practise such a rank imposture on their customers as to sell them an article adulterated to the extent of 60 or 75 per cent.

RECENT accounts mention that some parts of the lovely Island of Sardinia have been devastated by a plague of locusts, and that the fountains and wells are poisoned by the decaying insects. Such an occurrence is so common in the East that the question arises, can nothing be done to mitigate the calamity by converting the plague into a source of profit to the afflicted? Father Ovalle, writing in 1649, informs us that the Indians of Chili, in the absence of grain, convert this insect into bread. They watch where the locusts alight to rest at night, then setting fire to the bushes, reduce all to ashes, which are gathered and baked into cakes. Mr. Gordon Cumming also has a word to say in their favour. To him they proved palatable food, and he calls them "fattening and wholesome for bird, beast, and man." If further testimony were required, we have it in the declaration of Dr. Livingstone, "that locusts are a real blessing to the country." This eminent traveller adds, besides, that when reduced to meal

and mingled with a little salt, they afford palatable food which keeps uninjured for months. Boiled, he found locusts disagreeable, but roasted, they had a vegetable flavour, and on the whole he preferred them to shrimps. On the other hand, we must not forget that Diodorus Siculus says that the Acridophagi, or locust eaters of Ethopia, fell victims to their diet at the early age of forty years, innumerable insects being generated in their bodies. Nevertheless, however unlikely it may be that any European nation would voluntarily select such food, it is abundantly clear that locusts are relished by millions of both Asiatics and Africans. It must be obvious, also, that the judicious and economic storing of this insect, which at certain seasons pours over two continents so abundantly as to become a plague and a scourge, is a fit subject to engage the attention of our philanthropists abroad. Hitherto human craft, with regard to those insects, has taken the form of immolation so vividly pictured by the blind poet, translated by Pope:—

> "As the scorch'd locusts from the fields retire,
> While fast behind them runs the blaze of fire;
> Driven from the land before the smoky cloud,
> The clustering legions rush into the flood."

Now, might not locusts be collected, ground up, and preserved on the spot, so as to become a reserve against such awful scenes as the late Persian famine?

The reply of Mr. Stansfeld and Mr. C. Fortescue in the House of Commons, on the 8th August, to Mr. Kay Shuttleworth, in reference to the foul nuisance adjoining the reservoirs and filters of the Southwark and Vauxhall Water Company, will have produced in the public feelings of amazement not unmingled with disgust. It appears that on the 25th April, and again on the 3rd July, Mr. Netten Radcliffe officially reported on the existence and offensiveness of an immense dust-heap belonging to one of the contractors of St. George's, Hanover Square, situated close to the ponds at Battersea. The practice for the last year has been to sift portions of the refuse, which process gave rise to an odour described as "penetrating and offensive in the extreme;" so much so, indeed, that the foul smell had been complained of by the inhabitants on the other side of the river. But even this evil odour seems not to have been the worst of the abomination. Mr. Radcliffe says:—"With reference to the Water Company's works, the nuisance is peculiarly serious, and during northerly and north-westerly winds, the pungent dust thrown up in the process of

sifting must be scattered widely over the water in the filter-beds." Undoubtedly it is then that the offensive stench salutes the unwilling nostrils of people across the Thames. Everyone at all acquainted with chemistry knows what a powerful solvent water is of every impurity, and that the purer the water the more liable it is to become contaminated. Nevertheless, the Southwark and Vauxhall Water Company (according to the newspaper reports), on being communicated with by the Board of Trade, are said to have replied that "the *purity of the water was not in any way affected by the proximity of the works*" (referring we suppose to the dust heaps and the people engaged in sifting), "and that action should be taken not by the company, but by the local authority." Fortunately the recent passing of the new "Adulteration Act" gives compulsory power to Local Government Boards to force the appointment of analysts on local boards; consequently, if the inhabitants of South London are truly alive to their own interests, they will lose no time in calling in the aid of chemistry to rid them of the pestiferous and fœtid dust accumulations in Battersea, and thus permit the water supply the chance of possessing something of that purity expected in a liquid so high-priced and comparatively scarce.

In a former number of the *Food Journal* * we took occasion to draw public attention to the danger attendant on the consumption of unsound pork, the agony suffered by those afflicted with trichiniasis, and the precautions and remedies usually recognised for the prevention and curing of the dreadful malady. Since then, researches made by M. Colins have thrown some additional light on the dreaded parasite known as the *trichina spiralis*. It appears this creature only attacks the mammalia; it finds no lodgement in the muscles of birds, and perishes in the cold and uncongenial intestines of fishes and reptiles. Thus, both rich and poor may escape trichinal annoyance so long as they adhere for their sustenance, to fowls, eggs, fish, and turtle. We are also informed that the objectionable antozoid shuns those of the human family who indulge in alcoholic and good malt liquors, yet screws its detestable gimblet-like structure into the unhappy beings who, from choice or necessity, confine their drinking to impure water, vanilla tea, chicory, coffee, or very small beer. So universally understood and appreciated does the alcoholic antidote appear to be in France that the agricultural or manufacturing labourer, leaving his

* See Vol. II., Feb. 1871, page 20.

home early in the morning, usually calls at the nearest *marchand de vin* for his three halfpenny worth of brandy; "*c'est pour tuer le ver*," as he pleads in excuse. While we throw no doubt on the efficiency of the French workman's practice, we incline to the belief that in the matter of a scourge so appalling as trichiniasis, prevention is better than cure; and that we had better refrain from the consumption of suspected pork than rack our invention for the means of destroying the worms after they are internally produced. A well-known food analyst informs us that "the most certain seat of the creature is in the muscles of the eye; we have, therefore, only to examine these muscles with the microscope to declare whether the meat is infected or not; and, at the present time, the sausage-makers of Germany have the pork examined in this manner before it is used as food."

If the notion that seas and rivers were made solely with the object of floating the ships belonging to the eminent firm of Dombey & Son is at all prevalent, we need not wonder should the Swiss, in time, persuade themselves that London fulfils its destiny in consuming their condensed milk. A recent issue of the *Swiss Times* informs us that the great milk establishments in the cantons of St. Gall and Friburg condense 20,000 quarts of milk per day, costing about 4,000*l.*, four-fifths of which goes to London. It might be inferred that the knowledge of this vast enterprise would have a deterrent effect on the pranks of the unscrupulous British dairyman. Unfortunately this is not the result as yet. "Simpson" still remains the chief ally of the milkman, and such "he" is likely to continue until the new Act is fully enforced.

At the last general meeting of the Assam Tea Company it appears that the total receipts for the past year had been 126,513*l.* 7*s.* 9*d.*; the expenditure 86,556*l.* 16*s.* 10*d.*; and the net profit to be divided 39,956*l.* 10*s.* 11*d.* When it is remembered that tea cultivation and preparation in India are of very recent date, and that for many years the whole enterprise was a mere experiment, the wonder is that such success should have attended the efforts of this company. At the same time, the known superiority of Indian tea, over every other growth, and the preference of Asiatics for the beverage, readily accounts for the rapid progress of this important form of industry. Before Indian tea had been thought of the produce of China had an enormous sale in Hindostan, but the native article has now almost entirely supplanted it, especially in the North West and adjacent countries.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

MY GRANDMOTHER'S RECIPE BOOK.

My grandmother, a lady of the olden time, when it was not deemed beneath the dignity of the mistress, personally, to superintend her domestic concerns, was great in the composition of jams, jellies, and other good things, and was, withal, methodical in all her actions; consequently, whenever she had discovered any good recipe for the preparation of a *bonne bouche*, the composing of a preserve, or a decoction of a draught, like Captain Cuttle, she made a note of it. Hence her heirs and successors have always had a rich mine from which to dig out infallible remedies in cases of illness, and delicious dishes in cases of feasting. These notes, with eminent foresight, she embodied in the form of a book of recipes which, I need scarcely say, has been jealously preserved by her children, and her childrens' children. At the same time her children and her childrens' children have added to the MSS. a few good things of their own in the way of recipes; and this collection it is now my intention to present to the readers of the *Food Journal*, at the same time remarking, that more than two-thirds of them are at least 60 years old. Like strong medicine, it is well that they should be administered in small doses, a few at a time; and I have handed the MSS. to the editor, who will, perhaps, kindly publish them as occasion offers, in the same order in which they appear in the MSS. itself. To classify them would, I think, be sacrilege.

One of the Grand-children.

TO DRY CHERRIES.

To every pound of cherries put 4 oz. of sugar. Your fruit must be stoned first. Put them and the sugar into a stew-pan together; boil them till they shrink, then let them stand in the sugar till cold; drain them through a sieve, and lay them on plates; dry them in the sun or in an oven.

TO MAKE CURRANT JELLY.

Infuse your currants in an earthen pot, tie it down close, and put it into a kettle of water. To 1 pint of juice put 1 lb. of double refined sugar; put it into a stew-pan and let it boil till clear, all the while skimming it; when enough, put it into your glasses and paper it down.

LEMON CUSTARD.

Take the juice of three lemons, with 4 oz. of fine sugar; heat 1 pint of cream scalding hot; pour it through a tea-pot near a yard high; * your lemon juice to be put into a soup plate. It is best made ten or twelve hours before you use it.

TO PRESERVE APRICOTS OR PLUMS WHILE GREEN.

Take your fruit while green; boil some sugar and, when candied high, put your fruit in. When they look green take them out to dry, and lay them on plates.

SNOW BALLS.

Take fine large apples pared and cored, then have ready some whole rice steeped in milk; roll your apples in the rice so as to cover them, and then tie them up close; half-an-hour will boil them. When enough, have a custard ready to pour over them.

A CAKE.

Take flour enough to make three cakes, with half a large spoonful of yeast, one egg well beaten, a slice of butter melted, and as much milk as will make it into a paste.

* It is not, of course, intended that the tea-pot should be "near a yard high;" the measurement relates to the height from which the cream should be poured.

THE

FOOD JOURNAL.

THE INTERNATIONAL EXHIBITION OF 1873.

ONE of the main divisions of the programme for next year's exhibition is devoted to food, drinks, etc., and the methods of their preparation.

No subject could have been selected of more importance than this, interesting as it does the entire population, nor could the moment be more opportune. Considering the present high price of meat, the failure of the potato crop, and the novelty of the supplies of provisions from our own colonies and other countries; considering the crying evil of adulteration, and the legislative effort first made for its suppression; and, lastly, considering the increased cost of coal, the wasteful employment of fuel in this country, and the admitted inefficiency of our cooks, we do not hesitate to say that it is extremely fortunate that the subject of food and its preparation should have been set down by Her Majesty's Commissioners for the coming year.

Subjoined will be found the general plan of the Royal Commission for the division in question, which appeals to every class of our readers, food growers, food preparers, and food consumers. It will be our duty from month to month to report the decisions of the Commissioners, the progress of the arrangements, and, when opportunity presents itself, to offer such suggestions as may seem to us likely to be useful.

Furthermore, we shall be obliged to our readers for any information or suggestions with which they may favour us, bearing upon food generally, upon new sources of food, and, especially, on the science of cookery; respecting any novelties and improvements in the apparatus of the *cuisine;* and upon any subject which touches the great sanitary, economical, and gustatory question of the alimentation of the country.

These exhibitions are international, and we trust that our neighbours may take an interest in the subject, and that, besides a good supply of foreign foods, in the words of the programme, "Cooking of all kinds will be represented, together with the mechanical appliances connected with it, as used in all parts of the world." There can be no doubt about the popularity of such an exhibition.

The following is an abstract of that portion of the official programme which relates to food and cookery:—

SUBSTANCES USED AS FOOD.

(Class XII.)

a. Agricultural products and Manurial substances used in their cultivation.

b. Grocery, Drysaltery, and Preparations of Food.

c. Wines, Spirits, Beer and other Drinks, and Tobacco.

d. Implements of all kinds for Drinking (exhibited for peculiarity of shape or for novelty), and for the Use of Tobacco.

REGULATIONS.

I.—Applications to submit objects, proposed for Exhibition, to the Committee of Selection, should be made upon the printed Form No. 10 (to be obtained at the Offices, Upper Kensington Gore, London, S.W.), and forwarded to the Secretary before the 31st January, 1873.

II.—Specimens included in the above subdivisions will be exhibited, as well as the Material, Machinery, and Processes used in their preparation and production. Special arrangements will be made for showing Agricultural Products under Cultivation.

III.—Class XII. is divided into the following Sections; and Producers of Substances used as Food, or of Machinery connected with its production, may submit specimens for Exhibition, or exhibit processes in operation:—

Section *a.*—AGRICULTURAL PRODUCTS,

Including Seeds and Materials for Manures; Grain, Roots, Fungi, etc., used as food; Fruits and Vegetables, fresh and dried; Hops; Linseed and other Cake and Meal; Butter; Artificial Food, etc.

Section *b.*—GROCERY, DRYSALTERY, AND PREPARATIONS OF FOOD,

Including Arrowroot, Bacon, Baking Powder, Biscuits, Cheese, Chocolate, Cochineal, Cocoa, Coffee, Confectionery, Corn-flour, Fish (cured), Ginger, Groats, Hams and Tongues, Isinglass, Macaroni, Mustard, Pearl Barley, Pickles, Preserved Provisions, Rice, Sauces, Soda, Spices, Sugar, Tea, Vinegar, etc., together with the Machinery and Processes employed in their production or preparation.

Section *c.*—WINE, SPIRITS, BEER, AND OTHER DRINKS, AND TOBACCO.

Potable Liquors of all kinds; Malt; Finings, Corks, Capsules; Syrups, Spruce, etc.; Tobacco, Cigars, Snuffs, with Machinery, Utensils, and Processes employed.

Section *d.*—IMPLEMENTS OF ALL KINDS FOR DRINKING*

[*These will be limited to specimens exhibited for peculiarity of shape or suitability to different kinds of Drinks. As mere glass or metal manufactures, they do not come under this Section, but will form Classes in* 1874, 1876, & 1878] AND IMPLEMENTS FOR THE USE OF TOBACCO.

Articles in Gold, Silver, Plated Ware, Pewter, China, and Glass. Tobacco Pipes, Snuff Boxes, Cigar Cases and Boxes, etc.

* These are limited to vessels which *are put to the mouth*, and do not include Jugs, Decanters, Bottles, etc.

IV.—The Exhibition will be limited to such specimens as are necessary for satisfactory illustration, and no mere duplicate specimens can be admitted.

V.—To each specimen should be securely attached a written label, containing, 1, its name; 2, the name and address of the manufacturer; 3, the average retail price.

VI.—In the case of objects which are very bulky or heavy, it is advisable that photographs or drawings, with some description, should accompany the Application Form, No. 10.

VII.—In the case of processes, application should be made for any special arrangements which may be required, in respect of space, fire, gas, steam, or water, etc., but Her Majesty's Commissioners can undertake to consider those applications only which shall have been notified before January 31, 1873.

VIII.—Her Majesty's Commissioners will provide foundations, railings, general shafting, steam, water, and gas, to all Exhibitors of Machinery whose requirements in these respects have been notified to them before the 31st January, 1873, and whose Machines have been accepted for Exhibition by the Committee of Selection. Exhibitors must, however, make their own connections for gas, water, and steam.

IX.—Exhibitors of accepted Machinery must provide their own driving belts and driving pulleys, which are to be in halves, and bored to the proper diameter of the main shafting, as notified to them by Her Majesty's Commissioners. They must also supply and erect, at their own expense, any counter shafting (including the necessary foundations) which they may consider requisite to increase or reduce the speed to suit their own particular machines.

X.—The following information should be supplied to Her Majesty's Commissioners with the Preliminary Application (Form No. 10) by proposing Exhibitors of Machinery:—

a. A plan of each machine, showing the position of driven pulleys, the minimum space required for attendants, and indicating the parts of the machine which should be placed most prominently for inspection by the public. An elevation also would be of use, if it can be supplied without inconvenience.

b. A plan and section of foundations are required.

c. The weight of the machine.

d. The amount of motive-power in actual horse-power required from main shafting.

e. Should water, steam, or gas be required, all necessary information as to the quantity of the requisite supplies.

XI.—Objects produced in the United Kingdom, as well as those objects produced in Foreign Countries, for which space has not been guaranteed, must be sent direct to the Exhibition Building for the inspection and approval of judges appointed for the purpose. All objects must be delivered at the proper places in the Building, which will be hereafter advertised, and into the care of the appointed officers, free of all charges for carriage, etc., unpacked, labelled, and ready for immediate exhibition.

XII.—All specimens under the class of Food must be delivered on 6th and 7th March, 1873.

XIII.—That the necessary arrangements for the Meetings of the Committee of Selection may be carried into effect, strict punctuality will be required in the delivery of all objects, both Foreign and British.

XIV.—Objects not accepted for exhibition must be removed according to notices which will be given.

XV.—Objects exhibited cannot be removed until the close of the Exhibition, except under the orders of Her Majesty's Commissioners.

XVI.—To every object, when exhibited, will be attached a label, prepared by

Her Majesty's Commissioners, for which the following particulars shouldbe supplied :—

1. The name of the object.
2. The Exhibitor's name.
3. His address.
4. The reason why it is exhibited, such as—Its excellence; Its novelty of production; Its cheapness.
5. The average retail price, unless the Exhibitor objects.
6. Any explanations, etc.

XVII.—Tickets of admission will be issued to each Exhibitor or Firm exhibiting, after the opening of the Exhibition.

XVIII.—All persons contributing to this Exhibition shall be considered thereby to render themselves subject to the present Rules, and to such other Rules and Regulations as Her Majesty's Commissioners may, from time to time, lay down.

Prizes will not be awarded, but a medal will be given to each Exhibitor, certifying that he has obtained the distinction of admission to the Exhibition.

COOKING AND ITS SCIENCE.

(Class XIII.)

This Class is specially for the illustration of Cooking Processes. Raw Materials, and the less perishable products of Cooking, will be exhibited in Class XII., Food. Cooking of all kinds will be represented, together with the mechanical appliances connected with it as used in all parts of the world.

Besides the Apparatus and Utensils used in actual cookery of all kinds, this class includes all descriptions of Domestic Machinery and utensils, Hot Water Apparatus, Ice Machines, etc.; Hydrometers, Saccharometers, etc.

The General Regulations applying to this Class are similar to those relating to Substances used as Food (Class XII.), and strict punctuality will be required in the delivery of all objects for exhibition.

New Source of Meat Supply.—The public will learn with satisfaction that, viewing the importance of supplies of foreign meat being imported into this country without delay, the Food Preserving Company (Jones' Patent) have resolved on immediately commencing operations on the River Plate. The manager is to leave London in October, and the necessary apparatus will be in working order in January, so that the first supplies of foreign meat preserved in *entire joints* may be expected to arrive in this country during March next; weekly shipments will then follow, equal in quality to fresh meat, and to be sold retail at fixed moderate prices.

Artificial Milk.—The *Boston Journal of Chemistry* states that during the siege of Paris, M. Dubrunfaut devised an artificial milk, made by dissolving one and a half ounces of sugar in a quart of water, adding an ounce of dry albumen (from white of eggs), and fifteen to thirty grains of soda crystals, and then making an emulsion of it with from one and a half to two ounces of olive oil. As the war progressed, gelatine was substituted for the albumen, and then slaughterhouse fats—purified by melting at 150°, and then projecting into them small quantities of water—for the olive oil. One firm made in this latter way 132,000 gallons of milk daily for Paris consumption.

"EXCELSIOR!"

Our sanitary reformers and men of medical science have learnt, with extreme and critical nicety, to analyse, classify, and discriminate between, the various diseases which go to form the sum of physical ills that flesh is heir to; and, tracing cause to effect, to predict with a certainty almost unerring, under such and such a condition of things, the prevalence to a greater or less extent of some particular disorder.

Given, indeed, imperfect ventilation, foul air, bad drainage, and impure water, the results even to the unscientific mind are not difficult of prediction. Cause and effect are too closely allied in such cases to admit of any doubt. The one is as certain to follow the other as vegetation to be promoted by the combined influences of sunshine and shower; and, as there is no uncertainty as to fact, so neither is there any confusion of nomenclature or looseness of diction: one disease is not confounded with another, neither do our "Wise Medicine Men" under some general heading include disorders which are brought about by causes altogether dissimilar, and which are attended with symptoms utterly antagonistic.

It is only when we come to consider that most prevalent and gigantic of all modern diseases which goes by the name of *Drunkenness*, that this careful analysis, this nice distinction, is lost sight of, and we rush to conclusions which are altogether false. It is not too much to assert that under this one generalising, much-abused word, are included many disorders, both mental and physical, each as different from, and even opposed to, the other as any two diseases known to physicians; not only different in themselves, but brought about by different agencies. That this is so, a merely cursory perusal of those humiliating but highly instructive records—our police reports—abundantly proves. Acts of gross and unnatural brutality, homicides, murder, *daily* figure, as we are all painfully aware, among the offences laid to that abnormal condition of mind and body known as drunkenness. But it is very much to be doubted whether what may be called "legitimate" intoxication—intoxication caused by pure vinous and alcoholic stimulants—does in reality dispose the "patient" to the commission of crimes so hideous as to shock all but the most depraved.

It is very possible that among a certain class of *habitués* of clubs, and more especially of large hotels both in England and America, there is as much hard drinking as ever takes place in the low dram-shops and beer-houses of the squalid haunts and purlieus of the poorest and more densely populated districts of the metropolis but we do not, save in very rare instances, read of wife-murders and other sanguinary and unnatural deeds committed by the higher or even the well-to-do middle class under the influence of drink. The votaries of Bacchus here, young men especially, do commit many foolish acts, are guilty of many indiscretions; they are not rendered bloodthirsty, however, by their compotations; they do not rush forth into the highways and run-a-muck among all and sundry whom they may meet, maiming here, stabbing there, until brought to with the charge of homicide tacked to their name. Neither do they return *home* and strangle their wives, or brutally illtreat their half-starved children. How is this? Can we doubt for a moment? The man in "Society," who indulges at his club, his hotel, his home, drinks wine, spirits, or malt liquor of higher or inferior quality, but still on the whole genuine; should he exceed, he becomes intoxicated—gets drunk, to use the more familiar and forcible expression; but it is Drunkenness he is suffering from, not Madness—Madness of a rabid, infuriating type; Madness which brutalises and converts the man into the ruffian, and qualifies him for the gallows.

This is the difference between the effects of what we have called legitimate intoxication and that maddening disorder of the brain which is caused by the excessive consumption of the drugged, poisonous, and unholy stimulants, the sale of which the law has hitherto winked at, if not positively, by its silence and leniency, encouraged. We must remember that it is no mere idle assertion, no theory, no unjust charge to allege that, to an enormous and incalculable extent, this system has prevailed. The whole united and unanimous testimony of the most eminent analytic chemists and physicians of the day, before the parliamentary commission, proved that this crime—for such it is—was all but universally prevalent among the retailers. "The combined effects," said the commissioners of the *Lancet*, "of alcohol and Cayenne pepper are such as no human stomach can withstand." We should think so, indeed; and Dr. Normandy did not hesitate to describe this fatal practice of adulterating wholesome stimulants as "diabolical."

Quorsum hæc? To what purpose this dissertation on the various forms and shades of drink-madness? Well, in a recent number we were at some little pains to bring home to the true

offenders, the framers and administrators of our laws, the public scandal which has so long existed in the unchecked prevalence of a very mighty abuse. Since the appearance of the number in question, a "step," as Lord Fortescue expressed it, has been taken in the onward direction by parliament in the matter of adulteration, which, if the law be properly and vigorously enforced, will be attended with the happiest results. Not only has legislation concerned itself directly by a separate act with the adulteration of food, but in the Licensing Bill, the main object of which is to regulate the sale of intoxicating liquors, a clause has been introduced with this object, which we are inclined to think will prove more practically beneficient than any other enactment of that long-contested measure. And it is because we do think so—because, at the same time, we are still inclined to think that the public have never fully realised the enormous evils—in the peopling of our gaols and madhouses—which have been brought about by the sale of spurious, drugged, and adulterated liquors—that we have ventured, ere parting from the subject, to point out what is the actual significance, what are the actual results of this unrighteous practice. It is not necessary merely that Acts of Parliament should be passed, but that they should be enforced; and in order that they be enforcd there is nothing like the vigilant watchfulness and unceasing pressure of the public, for whose benefit—we might almost say salvation—prohibitory measures, with penal clauses attached, have been forced upon the attention of successive governments, and at length, successfully thus far, wrung from one of them. There is still, however, too much to be achieved in sanitary legislation to allow us to admit of any idea of "finality" in the matter, or to rest even though we be thankful for what we have received. While fully appreciating, therefore, the measures passed during the last session, we would still suggest that the summit to be gained is a lofty one; that it is not to be reached until after many and wearying and long-continued, oft-renewed exertions, and that the motto to be adopted by all interested in sanitary matters, whether inside or outside the walls of St. Stephen's, should still be that which is prefixed to this article, and with which it may be fitly closed —"*Excelsior.*"

WHAT WE ARE COMING TO.—The *Court Journal* suggests that the best way to bring down the price of meat is for people to partially abstain from its use. It seems that, on the other hand, the butchers of Hanley have determined to limit the supply. At this place one may ask for a leg of mutton, and be told, "A chop will do for you, take it and be thankful." Happy Hanley!

TEA ADULTERATION.

Part II.

The manufacture of spurious tea in China seems to have been more commonly practised during the past few years, since the low rates of duty on tea imported into this country have caused our consumption rapidly to increase. As an illustration of this increased consumption, the Customs returns show that 32¼ million pounds were imported in 1840, 51 million pounds in 1850, 77 million pounds in 1860, and 118 million pounds in 1870, the increase in thirty years having been nearly fourfold. It must also be borne in mind that the consumption of tea in other countries has also increased, and consequently the Chinese may have lately found some difficulty in supplying a sufficient quantity of tea for foreign markets, especially in the low descriptions.

This demand for tea seems to have had the same effect on the Chinese as the high rates of duty had on certain persons in this country during the last century, and on whose especial account certain Acts of Parliament were passed to prevent tea adulteration. The adulteration of tea continues; but now, instead of being practised in this country, it is carried on in China and other tea-growing countries; the duty on tea here is so low, and the fine for adulterating it so great, that the manufacture of spurious tea is now almost entirely carried on abroad. The Customs authorities seem always to have adhered to their present practice of receiving duty on any importation called tea, whether genuine or adulterated; and because coloured and spurious teas have been imported and charged with duty, the Excise laws bearing on the subject seem to have almost fallen into disuse, on account of the difficulty of proving whether tea when found adulterated has been imported in that state, or adulterated after its arrival in this country.

A brief review of the Acts of Parliament passed for suppressing tea adulteration in Great Britain will show that many practices of the Chinese are the same as formerly prevailed in this country. Thus, in the year 1725, the Act 11 Geo. I. cap. 30 was passed to prohibit persons, under a penalty of 100*l.*, from counterfeiting or adulterating tea, or manufacturing tea with terra-japonica, or with any

drug or drugs whatsoever. And in 1731 the Act 4 Geo. II. cap. 14 was passed for suppressing the trade which had sprung up among tea dealers of dyeing or manufacturing "sloe leaves, liquorish leaves, and the leaves of tea that have been before used, or the leaves of other trees, shrubs, or plants in imitation of tea." And in the year 1777 the last Act passed for suppressing the adulteration of tea in this country came into force, being the one under which Excise proceedings are now taken. This Act was necessary because the previous one did not include as offenders persons not tea dealers who carried on the trade of tea fabricators. In the Act itself it is stated that there was a necessity for such legislation, because the evil practice of adulteration had increased to a very great degree, "to the injury and destruction of great quantities of timber woods and underwoods, *the prejudice of the health of His Majesty's subjects*, the diminution of the revenue, the ruin of the fair trader, and to the encouragement of idleness."

It will thus be seen that the present practices of the Chinese in manipulating tea are similar to those carried on in this country a hundred years ago. We have now low green tea faced with blue and yellow colouring matters, the blending of which gives the tea its green appearance; black tea made of a rough flavour by the addition of catechu or terraja-ponica, and leaves of other trees dyed and fabricated to imitate tea leaves. All these different descriptions of adulterated and spurious teas are now imported abundantly into this country, while formerly these adulterants were added at home. We thus see history repeating itself even in tea adulteration, and we heartily wish that history in one respect at least would repeat itself in legislation. In the old Tea Act of 1777 it is stated that the legislature gave as one of their reasons for passing it, that the adulteration which then prevailed was to "*the prejudice of the health of His Majesty's subjects.*"

The Adulteration Act of Mr. Muntz, passed since the first part of this paper was written, will in a measure remedy the defects of the old Adulteration Acts, but we fear that it will have little or no effect in prohibiting the importation of unwholesome tea and other substances adulterated abroad. The Tea Adulteration Acts still remain in force, but until the Government issues orders to the Customs to stop the importation of all adulterated dutiable commodities, there is every reason to believe that the first section of Mr. Muntz's Act, which gives the power of imposing penalties on manufacturers mixing poisonous or injurious ingredients with articles of food or drink, will be evaded by having such admixtures made abroad.

It will no doubt be urged occasionally that the stringent carrying out of the old Excise and Customs Acts would be tyrannical, and would also interfere too much with the liberty of the subject. In the present condition of commercial morality this may appear true, but it is a question whether the Government should not set an example in this matter by determining to put a stop to the importation of fictitious and adulterated tea as well as other substances used as food. That this should be done is only reasonable, for Mr. Muntz's own Bill—passed with the consent of the Government—empowers the Local Government Board in England, one of Her Majesty's Secretaries of State in Scotland, and the Lord Lieutenant or other chief governor in Ireland to compel the vestries and district boards to appoint competent analysts for the purposes of the Act; and what is considered necessary to be done in certain localities cannot be the less necessary in the case of goods imported on which the Customs receive duty. If this be not done, we shall have such adulterated articles forming the subjects of prosecutions in different parts of the kingdom, and innocent men who have purchased in perfect good faith will be annoyed, if not punished, for dealing in impure and unwholesome articles. There seems to be no tyranny in the fact of testing tea and similar articles on importation as to their purity and soundness, and refusing to allow duty to be paid on whatever is sophisticated. The expense of such an examination would not be great, because the same restrictions which are enforced in the case of tobacco, when imported, might be made to apply to other cases, viz., that the Commissioners of Customs name what ports shall be used for such importations. Such a regulation would neither materially interfere with our trade nor be a hardship to the importer, and any possible inconveniences would be more than compensated for by the great good conferred on the public. And even if the expense of such supervision should prove considerable, the amount would be willingly paid by the tax-payer, because the benefits obtained by the expenditure would be directly apparent.

Probably the Government will not take any steps in the matter at present, but of this we may be sure, that if the public will show their determination to have analysts appointed for carrying out the Act, cases will soon arise showing the absolute necessity of vigilant Government supervision of goods imported.

The public now have the case in their own hands, for the law is on their side, and it is for them to show that they are determined to make use of the law to protect themselves. If the analysts appointed under the Act will look after the low qualities of green

coloured teas, they will soon discover that some of them are faced with hurtful ingredients. And although the seller of faced teas may, in the first instance, be the victim, yet it is certain that a few cases of hardship will strengthen the hands of the magistrates and the public in demanding protection from such frauds. It is only by these means, and by constant agitation in the press, that reforms are accomplished. And when it is remembered that last session an Adulteration and a Public Health Bill became law, social reformers may fairly take courage, and from recent successes determine to persevere in the education of the masses as to what is necessary to preserve their health, and what is best to promote the comfort and well-being of the whole community.

B. R.

A Horrible Story from Paris.—Three men have been arrested, and are now in charge of the police, for manufacturing and selling *saucissons* (large, or "German sausage,") of the most disgusting composition. Perrin, the chief culprit, lived in a house at Levallois-Perret, a commune just outside the walls of Paris, adjoining Neuilly. A very bad smell frequently invaded the street, and the inhabitants became alarmed, for the house had a terrible reputation, it being formerly inhabited by a butcher who was executed for murder, and for having sold some of the flesh of his victims for human food. The report was soon current that Perrin, who was a sausage maker, had discovered the remains of buried communists, and was using them in his trade. The storm was gathering over the fellow's head, when a man, named Bonnin, appeared before the commissary of police of the place, and declared that he had purchased of Perrin three quintals of sausage, to sell by retail to the masons and fishermen of the neighbourhood, and that he had been grossly defrauded, as the meat was in a horrible state of decomposition. The manufacturer, and his sausages and meat were immediately seized, and the latter was in such a condition, that the persons called in to inspect it were seized with serious vomitings. It turned out on enquiry that those dreadful sausages were composed of the flesh of dogs, cats, and other animals collected by "chiffonniers" in the streets of Paris.

New Value in Coffee.—Roasted coffee is one of the most powerful means, not only of rendering animal and vegetable effluvia innocuous, but of actually destroying them. A room in which meat in an advanced degree of decomposition had been kept for some time, was instantly deprived of all smell on an open coffee roaster being carried through it containing a pound of coffee newly roasted. In another room the effluvium occasioned by the clearing out of a cesspool, so that sulpheretted hydrogen and ammonia could be clearly detected, was completely removed within half a minute on the employment of three ounces of fresh coffee. The best mode of using it as a disinfectant is to dry the raw bean, pound it in a mortar, and then roast the powder on a moderately heated iron plate until it assumes a dark brown hue, when it is ready for use. It must, however, be remembered that the coffee, to be effectual, should be perfectly pure. Adulterated rubbish will only make matters worse.—*Homœopathic World.*

A SUBSTITUTE FOR POTATOES.

UNHAPPILY there is no doubt now that the potato crop is most seriously affected, not only in England, but also in France, and probably in other countries; and unhappily also our labouring population, and a great many other people, are almost helplessly dependent on this tuber. Such is not the case elsewhere, and such need not be the case here; our housewives and cooks should not be so confined in their resources as to be thrown almost into a state of terror when one single kind of esculent is attacked by disease, or when its supply falls below the average. Potatoes are great favourites in France, though not generally in the boiled state, and so they are in Germany and other countries, but none of our neighbours are so exclusively bound to potatoes as we are; they eat much more bread, white, when they can get it, households or seconds generally, brown and black in many places, but neither do they depend upon bread exclusively; all the vegetables are made good use of in turn. The Germans when cabbages are plentiful salt them down, and produce what is well known as sour-crout; the French also make capital use of their cabbage. But the vegetable which comes nearest to the potato, which is employed largely throughout France, Germany, Spain, almost everywhere but in England, is the haricot, the seed of the "French" and other beans; and it may safely be asserted that, taking the price and the amount of nutritive matter contained in these beans both into account, they afford the cheapest food in the world. They stand next to meat in the dietary scale, and they are so cheap that living upon haricots is synonymous with the most straightened circumstances. Add to these facts that they are universally liked in all countries where they are consumed, and, with the exception of some persons with whom they do not agree, at any rate at first, they are eminently wholesome.

Haricots are of several kinds. There is the delicate new bean known in France as the flageolet, which finds its way to every table in its season; secondly, the dried white haricot, the type of the haricots, which is grown in enormous quantities, keeps for almost an unlimited time with little care, and is very low in price; and thirdly, the red haricot, of less importance than the white stock haricot, but still exceedingly useful in cookery.

The red haricot is, we believe, the cheapest of all, but, although quite as nutritious as the white, is coarser in flavour, and stands altogether lower in the cook's estimation. It is used, like peas, to thicken soups, and for making *purée*, which nearly resembles our peas-pudding, only rather thinner, and is the ordinary accompaniment of many dishes. *Purée Condé* is, we believe, made either of chestnuts or of red haricots, but of this we are not certain, and the fact is of no importance except to show that the haricot is thus an honoured item in French cookery. We have never eaten the red haricot whole as a vegetable, but it is so eaten, and that largely.

The flageolet and the white haricot are treated in the same manner by the French, only the former requires less previous soaking than the latter, which must be steeped for hours in cold water, like dried peas, before being cooked. The most usual form in which either of these beans is brought to table is with a little sauce and chopped parsley or other herbs, *à la maître d'hotel*, and they are eaten either alone or with meat; another mode is to toss them up, after they are well boiled, with a little butter, till they are of a light brown colour. Haricots thus *sautés* are delicious, and taste almost like almonds.

The working classes of France eat the haricots simply boiled and sprinkled with a little salt, and groups of workmen may be seen at dinner time with white jars or gallipots of cold well-boiled haricots, a huge hunch of common bread, and a little wine, evidently enjoying their meal.

The haricot is, in fact, universal in its application; it forms an important item in the well-known *sauce à la jardinère*, a mixture of all kinds of vegetables tossed up with white sauce; it is put, when fresh, into spring soup; it enters with salads as well as with *ragouts*, though, curiously enough, we never saw it in haricot of mutton, although the dish evidently derives its name from the bean.

The grand recommendation of the haricot is that when hot it replaces the potato advantageously, and that, eaten cold, it far surpasses it in flavour, and in the amount of nourishment it yields. When cold it may be mixed with any other cold cooked vegetables, but alone, or with a little chopped parsley, and eaten with oil, vinegar, and pepper, it is capital.

Now, why should not the haricot be introduced into our ordinary diet at once? It is true that the beans may be obtained in Covent Garden, in the neighbourhood of Leicester and Soho Squares, where foreigners most do congregate, and in some other places, but they have never appeared in a general way in our markets and shops; while, as already stated, they form one of the most, per-

haps *the* most, common vegetable food in France, Spain, and other countries. There is nothing extraordinary about haricots that would be likely to be distasteful. We like peas and beans of all kinds, from the delicate green pea to the big broad bean, and we are assured that haricots would soon become favourites with all classes; and they present this great advantage, that while green peas and beans of all kinds have but a short season, and are often anything but cheap, or else not very palatable, haricots are equally good all the year round.

We need not repeat the old saying about the production of the two blades of grass, but we say that any merchant who will place good haricots in our markets at the present moment will be a public benefactor, and any restaurant keeper who will introduce them in his list of vegetables will do his customers a service. If our hint should have any effect—and we are able to affirm that what is said in the *Food Journal* is not whispered uselessly in a corner, but is echoed far and wide—we shall be glad to be informed of and to register the facts; and, also, if correspondents will favour us with facts respecting the probable supply and price of haricots—green, white, and red—we shall be obliged.

One word more with respect to haricots as a general article of food. We have shown that they are excellent hot or cold, with or without meat, as salad or otherwise, and we may add that they form a capital accompaniment to the preserved Australian or other meats of which we treated last month. All the world, at least all who have given any attention to the subject, agrees that this meat is excellent eaten cold; but something is required besides bread to eat with it. Potatoes are scarce, and cold potatoes not universal favourites; but well boiled white haricots are nice, and eaten with tinned meat, with the addition of a ghirkin, salad dressing, or any other kind of seasoning, supply a capital repast which has the great recommendation, especially in our steam-pressure days, of being "ready at a moment's notice," as the haricots can be boiled at any convenient time, and do not spoil in any way by standing. The economy might easily be carried one step further: why should not cold boiled haricots become a stock commodity in our greengrocers' or other shops, as baked potatoes and roasted chestnuts are at present? The working man, the unhappy bachelor, and even the poor seamstress would then have a palatable and nutritious dinner or supper always at command.

G. W. Yapp.

A NATIONAL REGISTRATION OF SICKNESS.

No. 3.

SUFFICIENT has, I think, been advanced, in the two papers which have preceded the present one, to prove that the registration of sickness is no mere crotchet in the brains of sanitarians, no deep scheme of the doctors for revealing family secrets, or chronicling uncomfortable facts, but a really useful measure, aiming at definite results, and offering to the country at large, and to ourselves as individuals, advantages which we can all readily understand and appreciate.

Taking for granted then that such a record is desirable, the next subject for consideration will be the machinery for carrying it into effect. How is it to be worked, and who is to work it? The whole weight and value of a registration of disease depend on the answers to these questions, for there can be little confidence in results where either the data on which they rest are untrustworthy, or the compilers incompetent. Many plans have been suggested, more or less feasible, and I shall have occasion to notice some of them by-and-bye; one or two have been already put to the test on a somewhat extensive scale and with much success, at Manchester, for instance, and Newcastle-on-Tyne. The experience gained by the energetic societies in these towns is invaluable, and should be of much assistance in building up a scheme to cover the whole of England. It is important, however, to bear in mind, and never to lose sight of, a principle to which I have already alluded more than once, that to be truly national in its aims and objects, a registration of sickness must be so framed as to answer both local and central requirements. Local sanitary authorities, medical practitioners, and even private individuals must be enabled to obtain the local information which they require as readily as the central authority itself. Access to the records, at least in summary, on the part of the local authority, must be of right and not of sufferance, or by "personal arrangement" as suggested by Mr. Simon,* if the true requirements of the country are to be satisfied, and not ignored, in the present mania for centralisation.

* Report of Royal Sanitary Commission (2), 1848.

One other matter I would allude to before proceeding to details. It has been gravely proposed, with all the weight of the British Medical Association, that voluntary effort, having done so well in one or two instances, should still be looked to for a registration of sickness throughout England. Certainly volunteers are never wanting for any good work, but the failure of more than one very complete and efficient organisation for registering sickness from want of funds should be conclusive as to the unsatisfactory nature of any such arrangement; beyond this it is eminently unfair to expect from voluntary effort, even in England, that which is so manifestly the concern of all.

What, then, are the facts on which a registration of sickness is to founded? Many of my readers will be surprised at the large amount of valuable material which now goes to waste, such as the records of sickness by poor-law officers, some three and a half million cases yearly; the returns of prisons, penetentiaries, dock-yards, arsenals, police and revenue departments, endowed schools, hospitals and dispensaries, probably much underrated at a million and a half. Besides these there are the records of mines, factories, workshops and public works, all of which might probably be obtained for a very moderate sum paid by way of remuneration to the medical officers who compile them.

The facts derived from these various sources, if properly digested, could not fail to yield information of the highest value concerning the health and health conditions of the people of England. When it is remembered, however, that diseases have often as many names as they have symptoms, the importance of some uniform plan of observation and record will be apparent; a standard terminology is essential, and the College of Physicians has but recently supplied the want by publishing the nomenclature of disease "for perfecting the statistical registration of diseases." This, if properly studied, would remove many difficulties. It has been successfully adopted in the army and navy reports; but it must be many years yet before the terms of this standard nosology meet with general adoption throughout the country, for provincialisms long hold their ground in out-of-the-way places, and are not unfrequently the only terms intelligible to the guardians of the poor. Classifications and analyses of returns are thus rendered difficult, and some degree of local knowledge becomes essential to its proper performance.

But how far is the registration of sickness to be carried? Is every trivial ailment to be classified and tabulated with the minuteness of an infectious disorder? It will be sufficient to reply that no available staff, either in the country or in London, could deal

with such a mass of matter, even if it were worth the trouble of analysis.

It would be for the central authority to state its own requirements, leaving the local authorities or the local compiler full liberty to deal with the records of their immediate neighbourhood. No rough-and-ready rule could be laid down for the whole country; what is an important disease for one community, has no meaning for another; each manufacturing town probably would have a list peculiar to itself, of diseases about which the local health officer would be glad to have particulars. Again the apparently insignificant disease of to-day might, in a short time, become of the utmost moment. A sliding and readily adjustible scale is therefore essential, if the summaries of disease are to be really useful in the country, and not mere congeries of figures to delight the eyes of statisticians, or to fill the massive blue books of the central authority. What the country really wants is a thorough and practical knowledge of the amount, distribution, and pernicious effects of certain well-defined diseases in small and well-defined districts. Large totals, however useful for imperial purposes, can never satisfy this demand; and if they are to be given, to the exclusion of local compilations, a really promising and useful measure will have been robbed of more than half its value. The frequency with which returns should be made must in the same way be decided by central and local authorities, according to their several requirements. "As to the poor law officers of the country," says Mr. Simon, "I think it must be expected of them that they will make their returns to the boards of guardians, and the boards of guardians ought to be required to have certain broad results of these returns put in a tabular form every three months, for the information of the central office and of the public."* A report every three months from the Guardians, together with an annual summary of cases treated in medical charities, would, in Mr. Simon's opinion, be sufficient for central purposes. The local authorities, however, might require daily intelligence of the inroads of an epidemic, if anything is to be done to meet it, while weekly, or in sparsely inhabited districts, monthly returns would be essential to the due maintenance of sanitary supervision.

Given, then, the poor-law registers as the basis of sickness registration, how should they be dealt with? Dr. Richardson proposed that the returns themselves should be transmitted weekly to London for weekly analysis, but it is by no means certain that the central authority would welcome a mass of information so

* Report of Sanitary Commission (2), 1912.

crude and unsatisfactory. The plan advocated by Mr. Lewis, of the Registrar-General's Department is in every way superior, embracing, as it does, in one harmonious whole the special requirements both of central and local authorities. He says:—

"What I propose is, that directly the workhouse or district medical officer has ascertained from his relief book the number of new cases of disease occurring within the prescribed interval, and has recorded that information for transmission to the central office, the sheets of his book containing the details of each case for the week, or other interval, should be then at the disposal of the medical officer of health of his district; that officer would make arrangements for collecting the sheets at stated periods, and he would thus possess in the utmost completeness all the details which he could need for local use. . . . . The principle I advocate is the retention of details for local use, and the transmission of summaries only for use at the central office."*

A resolution of the Joint Committee of the Social Science Association and British Medical Association on State Medicine sketches out a somewhat similar plan:—

"That with regard to the registration of sickness, the compilation of reports of sickness and its causes, from the returns of medical officers and medical relief institutions, and the revision of the returns of deaths and causes of deaths, be committed to the chief officers of health within their respective districts, and that the revised summaries be by them forthwith transmitted to the central authority."

An additional suggestion of Mr. Lewis, that the returns, or part of them, should be in duplicate, taken by means of transfer slips, would do much to simplify the working of details, and to reduce the labour which must fall upon the medical officers.

Taking the poor-law returns as they now stand, additional columns would be required for "*occupation*" and "*date of commencement of disease.*" The columns required in duplicate would then stand from left to right in the following order:—1, name; 2, age; 3, residence; 4, occupation; 5, nature of disease (and this should have more space than is allowed at present); 6, date of commencement of disease; 7, result of observations. The slips thus filled in would be forwarded to the local compiler for analysis, to be summaried together with such returns as he might receive from the charitable institutions of his district.

But how far is compilation to be carried? and who are to be the local compilers? The first of these questions has been partly answered by the publication, in 1867, of a tabular form by the British Medical Association, a form which has been adopted with much success by the Newcastle Association to which I have

* Lewis on National Registration of Sickness. "Social Science Sessional Proceedings." p. 317.

alluded. In Manchester the diseases most easily recognised were selected without any fine distinctions; and probably no better could be chosen for summarising the sickness of the nation.

Subtle distinctions such as are unrecognised by those who record the diseases or causes of death must find no place in the summaries, otherwise errors of enormous magnitude will creep in. The best and most natural corrective, however, to all such sources of fallacy should be found in the local compilers. It is no easy matter to reduce the heterogeneous mass of causes of death to any degree of uniformity, and the difficulty would be enhanced in the case of sickness returns. Provincialisms introduced carelessly, or wilfully in deference to ignorance at the board of guardians, will have to be reduced to the common terms of a national standard nomenclature. Careless and imperfect or contradictory entries would have to be inquired into, and for this much local knowledge and tact as well as technical skill would be required.

I have more than once drawn attention to the quarterly returns of the Registrar-General, as illustrating the fallacies introduced by ignorant or careless compilers; and those who are interested in the subject may refer to a paper in the *British Medical Journal* for July 23rd, 1870, where the total incapacity of local registrars for this special work is clearly shown.

They would be worse than useless, they would be mischievous as local compilers for a national registration of sickness, yet they are considered competent for the office by the Royal Sanitary Commission. The union clerks again have been named as the proper persons to collect the returns, but the legal mind could scarcely be expected to cope successfully with abstruse medical terms or the classification of disease. Now that we are to have an officer of health in every town and district, he should, undoubtedly, be the collector and compiler of local facts concerning the disease around him,—unless, indeed, we should be fortunate enough to secure the services of a higher medical officer, with jurisdiction over a larger district, as proposed by Dr. Rumsey, and urged by the Joint Committee of the British Medical and Social Science Associations on State Medicine. Mr. Simon, in a true centralising spirit, objects that such officers would be "mere buffers" between the central office and local authorities. From a provincial point of view, however, the "mere buffer" would be the sanitary sentinel ready to give *instant* intimation of a danger which, in the ordinary course of things, would become known to the central authority, and through them to the local authority, after an interval of three months. With regard to the central office, in which the final summary should

be made, I cannot do better than quote the words of Dr. Rumsey, who says:—

"It would be difficult to devise machinery more suitable for noting, collecting, and distributing truthful information than that which is actually ready for our use. In the established registration system we possess an organisation co-extensive with Great Britain, in full and effective operation. It merely wants the grant of additional powers, with the exertion of additional duties, and, above all, competent local supervision, to fit it perfectly for our purpose." *

The space at my command leaves room for only the briefest recapitulation. Taking into consideration the interests of local as well as central authorities, of individuals as well as government, it would seem of the utmost importance that the facts relating to disease should be analysed and sifted at frequent intervals on the spot, before being transmitted to the metropolis; that the results of this analysis should be published locally, or, at least, be freely accessible; and that the compiler should be the health officer of the district in which the returns are made. The form of these returns would be: for poor-law medical officers, a transfer slip from that which they are now expected to fill in; for medical charities, public institutions, and extensive works, according to a schedule agreed upon for the whole country, or, perhaps, more fully in some cases at the instance of the health officer of the district. A mass of information so minute and so novel could not fail to reveal many blots in our social system,—many a rent in our sanitary armour, now perhaps unknown or only suspected; it would substitute plain speaking for insinuation, and truth for very palpable error. Our local authorities could not plead ignorance as an excuse for neglect, if the health returns were brought weekly to their notice; and, in the summaried reports forwarded from every part of the country, the Registrar-General would have an accession of material which would take no unimportant part in the vital statistics of the Kingdom.

E. T. Wilson.

* "Right use of Records founded on Local Facts." p. 12.

French Cod Fishery.—The *Progrès de Fécamp* gives a glowing account of the success of the French fishermen off Newfoundland. Some of the vessels had returned home with regret, as the weather was remarkably fine, but they had used up all their salt. Those which had a larger stock than usual were lucky indeed. Amongst the returns are the following:—The "Pierre-Philippe," with 80,000 fish from the Dogger-bank; the "Rubens," with 100,000 from the great and little banks; and the "Martine-et-Armande," with 80,000. The two latter vessels had used up every scrap of salt on board.

THE BREAKFAST TABLE: PAST AND PRESENT.

It is well-nigh impossible to say what article of food could not properly be categorised as appropriate for consumption on the breakfast table; and, indeed, upon reflection, it will be perceived that an immense number of gastronomic commodities frequently make their appearance at this useful matutinal meal. Putting aside, however, those which have been introduced by the epicurism of fashion or the ingenuity of the *gourmand*, and which, so far as the breakfast pure and simple is concerned, may be considered in some respects as superfluities, we have yet before us a considerable number of eatables and drinkables which, by the force of tradition and necessity, have established themselves permanently upon the breakfast table. Amongst such articles must be named coffee, tea, eggs, butter, sugar, milk, bread of course, and numerous others which we are wont to partake of to a minor extent and on exceptional occasions.

As indicating the relative progress of the consumption of the above articles, and as showing the characteristics of our breakfast table at the present time, as compared with preceding years, we consider that a Government return just presented to Parliament, which publishes the amount and value of these articles of food imported into this country during the last fifteen years, will be of no small interest—and possibly instruction—to the readers of this journal. Commencing with coffee, which, *par excellence*, belongs to the breakfast table, we find that the importation of this article into this country has increased of late years to a most important extent. While in the year 1856—56,992,116 lbs. were imported, last year over 179,000,000 lbs. were received into England, thus incontrovertibly proving the fact that coffee has rapidly grown into extended use in this country, that the taste for it is being most thoroughly developed, and that it has firmly established a position amongst articles of imbibition. Coffee naturally suggesting tea, let us next glance at the statistics indicative of the consumption of that article. It may probably surprise many people that tea is not imported so largely as coffee, but such is undoubtedly the case. In the year 1856—86,200,414 lbs. of tea were imported, and

in 1870—141,920,767 lbs.—certainly a very large augmentation, but an amount, as will be seen, which is considerably less in the aggregate number of pounds than that of coffee. Turning to the value, however, of these importations, we find that in pounds sterling tea is of greater importance, on account of its considerably higher price than coffee. While in 1870 the value of coffee imported was 4,942,769*l.*, the value of tea was 10,097,619*l.*, thus showing double the amount as compared with the former article.

The importation of eggs into England constitutes in itself an important branch of commerce. In 1856—117,230,600 eggs were imported, and in 1870 the immensely increased number of 430,842,240 were received from various sources into this country The value of these eggs, too, is not inconsiderable. Although in 1856 it only amounted to 278,422*l.*, last year it was 1,102,080*l.*; and this will certainly serve the purpose of showing that, as a popular article of consumption, eggs are by no means to be despised.

Butter next claims our attention, and the statistics representative of the consumption of this article exhibit features of interest. In 1856 only 513,392 cwts. of butter were imported; but in 1870 this amount, as in most other articles referred to, had very considerably augmented, the precise figures being 1,159,210 cwts., the value of which is 6,793,877*l.* Sugar is an article of such universal consumption that there will be no cause for surprise in viewing the immense extent to which it is imported. In 1870, the amount of refined sugar imported was 1,710,176 cwts., value—2,744,366*l.*; and of raw sugar, 12,798,631 cwts., value—14,440,502*l.*

Although we have only considered this subject from a statistical point of view, our readers will be able to perceive the extent of their consumption during the progress of breakfast, and will also be in a position to recognise the immense difficulty in the realisation of that millennium which has been designated a "free breakfast table."

H. G. Harper.

Quinine Cordial.—The importance of being able to obtain this excellent bitter in a perfectly soluble and palatable form must be our excuse for noticing a preparation which has been forwarded to us for analysis by Messrs. Phythian and Sons, Strand. Our analyst reports that it contains a full percentage of true quinine, and that it is in every way a genuine article. We can answer, from tasting it, that it is very agreeeable, and we most unhesitatingly give the article our best recommendation. It has only to be known to become a very popular tonic in suitable cases.

EDIBLE NUTS.—No. 2.

The walnut-tree certainly affords the most delicate and highly prized of all the edible nuts. Although the quantity grown in the United Kingdom is very large, upwards of 125,000 bushels are annually imported. That it has always been a favourite in this country appears from the following lines, in which the poet, Abraham Cowley, sung its praises:—

> "The walnut then approach'd, more large and tall;
> Her fruit, which we a nut, the gods an acorn call—
> Jove's acorn, which does no small praise confess,
> T've called it man's ambrosia had been less.
> Nor can this bead-like nut, shaped like the brain
> Within, be said, that form by change to gain,
> As caryon call'd by learned Greeks in vain,
> For membranes soft as silk her kernel bind,
> Whereof the inmost is the tenderest kind,
> Like those which on the brain of man we find;
> All which are in a seam-join'd shell enclosed,
> Which of this brain the skull may be supposed.
> This very skull enveloped is again
> In a green coat, her pericranium."

There are several varieties of walnuts grown in England, such as the High-flyer, or Thetford nut, the fern-leaved, the thin-shelled, or titmouse walnut (so-called from the shell being thin enough for the titmouse to eat through it), and the huge *nux juglans fructu maximo*, known as the Warwickshire walnut. The wood is extensively used in the manufacture of gun-stocks, pianos, and furniture generally; the shells also are adapted as receptacles for dainty little presents. "In some portions of the coast of Southern Russia," says Mr. W. B. Lord, "it is a common practice to tap the walnut trees for the purpose of obtaining the sap, with the view to the manufacture of sugar. Holes are bored in the trees when the sap is rising, and a convenient spout of bark being inserted, the liquid flows into a pot or other vessel placed to receive it, and is then boiled and roughly crystallised for use. Wine is made also from the same juice by subjecting it to fermentation, whilst by distillation a strong spirit is obtained." Perhaps the largest walnut trees in the world are to be found in Crim Tartary. Large quantities of oil are obtained from the kernels of walnuts, and this extract forms, commercially, its greatest value.

At the proper season, large parties assemble for the purpose of cracking the nuts, which is effected by small light mallets. While some of the party are thus employed, others remove the kernels from the broken shells, and place them unpeeled in baskets. Either horse or water power is usually made use of for grinding the nuts to a paste, which, when sufficiently fine, is placed in strong coarse bags, and subjected to heavy pressure; the first runnings of oil, known as cold-drawn, being esteemed the best. The paste, after having the oil pressed from it, is used as food for pigs, sheep, and poultry. Dark brown and black dyes are made from both the root and husk, and the stain of the juice of the walnut is with difficulty removed. From the practice of beating the branches of the tree with long heavy poles, in order, as was supposed, to benefit its fruit bearing powers, arose a couplet not very complimentary to the gentle sex :—

"A woman, a dog, and a walnut-tree,
The more you beat them, the better they be."

The walnut-tree is said to have been introduced into Rome by Vitellius, who brought it from Greece. Strabo speaks of the value attached to the wood in his day; and from a poem by Ovid, entitled "De Nuce," it appears that at marriages, walnuts were thrown amongst the assembled children by the bride and bridegroom. Loudon, in his work "On the Trees and Shrubs of Great Britain," informs us that when, in 530, St. Médard, the Bishop of Noyon, instituted at Salency, his birth-place, a festival called "La Rosière," for conferring a crown of roses on the village maiden adjudged by her companions to be the most amiable and modest, one part of the proceedings consisted in the presentation of ripe walnuts and other fruits. Evelyn, in his "Silva," speaks of the estimation in which it was held in Europe in his day, the middle of the 17th century. He says:—"Burgundy abounds with them, where they stand in the midst of goodly wheat lands, at 60 and 100 foot distance; and it is so far from hurting the crop, that they look on them as a great preserver, by keeping the ground warm; nor do the roots hinder the plow. Whenever they fell a tree (which is the old and decayed), they always plant a young one near him; and in several places, 'twixt Hanau and Frankfort, in Germany, no young farmer whatsoever is permitted to marry till he bring proof that he hath planted, and is a father of such a stated number of walnut-trees, as the law is inviolably observed to this day, for the extraordinary benefit which this tree affords the inhabitants." Such was the panic caused in France by the appearance of a disease among the walnut-trees, that in 1720 an edict was issued,

forbidding the exportation of the timber under pain of confiscation and a fine of 3,000 livres.

General readers will remember the miraculous virtues attributed to the famous thorn of Glastonbury which, according to the monkish legend, was supposed to have sprung from the staff of the reputed founder of that magnificent abbey, in which moulder the bodies of so many of the princes and nobles of this country; but Collinson, in his "History of Somersetshire," also speaks of a "marvellous walnut-tree." "There grew," he says, "in the abbey churchyard, on the south side of St. Joseph's Chapel, a marvellous walnut-tree, which never budded forth before the feast of St. Barnabas (the 11th June), and on that very day shot forth its leaves, and flourished like other trees of the same species." Collinson also states that this tree was much sought after by the superstitious, and that King James II., Queen Anne, and many of the nobility, gave large sums of money for cuttings from it. The poet recounts the uses to which the walnut-tree is put in England :—

"Her timber is for various uses good :
The carver she supplies with useful wood ;
She makes the painter's fading colours last;
A table she affords us, and repast.
E'en while we feast, her oil our lamp supplies ;
The rankest poison by her virtues dies—
The mad dog's foam, and taint of raging skies.
The Pentic king, who lived where poisons grew,
Skilful in antidotes, her virtues knew."

The nut of the Areka palm (*Areka catechu*), which is so universally used in the East Indies, grows on one of the most beautiful of the family of palms. What this "family" is, may be gathered from the fact that Von Martius in his splendid work, calculates the total number of species at not less than 1,000; at present more than 440 have been described, including Griffith's East Indian species. Linnæus speaks of palms as "the princes of the vegetable world ;" and Humboldt says they are "the stateliest of all vegetable forms." Notwithstanding their affinity, palms present remarkable variations of aspect; thus, the dwarf palm of Spain rises only a foot from the ground, while the wax palm of the Andes towers to the height of a church spire, and Rumphius asserts that some of the ratan, or creeper species (*Calami*) attain the height of 1,200 or 1,800 feet.

Burckhardt mentions that not more than 100 varieties of date palms grow around Medina; and with one of the commonest varieties, Mahommed is said to have performed a miracle by planting a kernel, which immediately took root, and in five minutes was a full-grown and fruit-laden tree.

Count Steinberg states that palms existed during the new red sandstone period, but they appear to be absent from the oolite and lias formation, though they abound in the tertiary strata. Mantell found the stems of a curious palm-like plant in the Wealden strata of Tilgate Forest, and the fruits of thirteen species of a palm (*Nepadites*) are found in the London clay.

The *betel*-nut, which is so universally chewed in the East Indies by men and women, is prepared as follows: a small quantity of the nut is placed with a little lime on the leaf of a pepper vine, and, after being rolled, is retained in the mouth, staining the saliva a bright-red colour. The natives assert that betel-nut chewing enables them better to endure fatigue. A considerable trade in this article is carried on from the ports of Sumatra, Malacca, Siam, and Cochin-China. The sea-board of the Acheen country is generally known as the "Betel-nut coast," and is the great emporium for this traffic. The export from the chief town is reckoned at 60,000 peculs annually (a pecul is about 133 lbs.), and the total supply from the betel-nut coast is not less than 90,000 peculs during the season, commencing in May and ending in August.*

The Areka palm, which bears fruit but once during the year, is one of the most beautiful of the species; its slender stem shoots straight up to a height of from 50 to 60 feet, and at the summit is crowned with a fine plume of dark green leaves. The fruit is of an elongated oval form, about the size of an egg, and of orange colour, which makes a becoming contrast with the leaves, among which it depends at the end of its long tough stems. Each nut is enveloped in a thick fibrous coat, within which is the kernel, covered with a much slighter and more delicate integument. Each husk contains only one nut, which, when removed from its covering, is of an irregular, conical form. The Peruvians also chew the leaf of the *Erythroxylon Coca*, which has a peculiar effect upon the nervous system. This shrub is from 6 to 8 feet in height, with numerous small white flowers, and much resembles a straight blackthorn. The leaves are chewed with finely powdered lime, and the constant use, unlike the betel-nut which is harmless, has the prostrating effect of opium, and causes premature death.

The cocoa-nut and date palms are well known, and among the most beautiful of the species is the Talipot tree of Ceylon, whose leaves are almost circular, and from 30 to 40 feet in circumference. They are of a dark green colour when expanded, and can be opened or closed like a fan. They are used for various purposes, and two books may be seen in the British Museum, composed of thin

* "Nature and Art," May, 1867.

laminæ of the leaves. The flowers rise pyramidically above the leaves, often to a height of 30 feet, and burst from their hard enveloping covering with a sharp report.

Mr. Charles Darwin, in his interesting travels in South America, published some thirty years ago, speaks of a species of crab, closely allied to, or identical with, the *Burgos latro*, which inhabits Keeling's island, in the South Seas, and feeds on cocoa-nuts. This crab grows to an enormous size, and has one pair of legs terminated by very strong and heavy pincers, and a second pair by others which are narrow and weak. M. Leisk, a resident of the island, assured Mr. Darwin that he had frequently seen the animal open a cocoa-nut, a task which it performs in the following manner:—The crab begins by tearing the husk, fibre by fibre, and always from that end under which the three eye-holes, commonly called the "monkey's face," are situated. When this is completed, the crab commences hammering with its heavy claws on one of these eye-holes, until an opening is made; then, turning round its body, by the aid of its posterior and narrow pair of pincers, it extracts the white albumenous substance. "I think," adds Mr. Darwin, "this is as curious a case of instinct as ever I heard of, and likewise of adaptation in structure, between two objects apparently so remote from each other in the scheme of nature, as a crab and a cocoa-nut tree."

C. R. Low.

THE FOOD PROSPECTS OF IRELAND.—The prospects of the food supply of the sister country for the current year present a singularly anomalous state of things—discouraging on one hand, and hopeful on the other. The effect of continued emigration is shown in the diminution of the more important cereal crops. In the first seven months of the year, 55,000 persons, of the bone and sinew of the land, departed for America. The farmers in Ireland have sown fewer acres of wheat by 16,262; less oats by 14,323 acres; less barley by 2,085 acres; and less bere and rye by 1,560 acres; in fact, 34,230 acres less of what may be considered the principal staff of life for man. From want of abundant labour, a part of almost every exposed field of oats has been thrashed by the storms, or beaten down by rain. It is not supposed that more than a fourth of the potato crop will be lost, though it is not pleasant to learn that there have been 66,632 acres less planted this year than last. When we consider the plenty and comfort which only one quarter of an acre of potatoes gives to the peasant family, it will not be difficult to estimate the consequences of the serious diminution of the quantity sown. The other and brighter side is that the farmers sowed 19,429 acres more turnips, more cabbages by 6,387 acres, more mangel-wurzel, parsnips, etc. There is also a superabundance of hay, and an increase in cattle of 80,000, and in sheep of 29,000, as compared with the corresponding period of last year. On the whole, the changes that are indicated above are not extraordinary, the shortness of the cereal crops in our country this year is an accident, and we can obtain wheat from abroad; while the dearness of meat threatens to be permanent, and the sources of foreign supply are more than doubtful. Ireland is a poor wheat country and excellent for grazing; the farmers, therefore, have doubtless acted wisely in increasing their flocks and herds, and 109,000 head is a pretty addition in one year.

MARKETS OF THE MONTH.

The high prices of provisions of all kinds continue; for as the incomes of the poorer and working-classes increase, in due ratio also their wants are augmented and the circle of their necessities becomes enlarged. Increased consumption of a more liberal diet very naturally raises the value of such articles as constitute it, the supply of which, to a certain extent, is limited. There is, however, one article of consumption, which, though not food, is yet closely connected with it, which appears to have reached the zenith of its price—that is coal. Coal may be quoted as having a downward tendency, although it is not sufficiently powerful at present to influence the market generally to any extent. The harvest has been gathered in, and flour is no dearer; consequently we have proof positive that it is not, generally speaking, a bad harvest. The meat market exhibits no feature worthy of notice, although it is with fear and trembling that we continue to receive fresh accounts of the outbreak of rinderpest in various localities. Nothing can be expected, at all events, in the shape of amelioration of prices for some time to come, and the trade will have fresh difficulties to surmount in order to supply its customers. Several of the leading cattle markets are closed, at least for a period, and it would be premature at present to anticipate what effect the outbreak of rinderpest may eventually have upon the prices in the dead meat market. The pest at present is not sufficiently evident to have caused any marked effect.

The fish market is well supplied with fish. Cod, soles, smelts, whitings, haddock, herrings, mullet, lobsters, turbot, brill, and many other kinds of fish, are now in season. Oysters, too, have made their appearance, but I cannot quote them as cheaper than last year, notwithstanding the energetic endeavours of the oyster culturists artificially to increase our supplies. The markets have been well supplied with grouse, at from 4*s.* 6*d.* to 5*s.* 6*d.* per brace; partridges are now making 3*s.* to 5*s.* per brace, though prices were higher at the commencement of the season; black game are fetching 4*s.* each. Venison is also in season. Geese are now in excellent condition, and may be purchased for from 5*s.* to 10*s.*, according to size. Ducks, too, are in prime season, and selling for from 2*s.* to 3*s.* 6*d.* each. Chickens are making from 2*s.* 6*d.* to

3*s*. 6*d*.; pullets, 4*s*. 6*d*. to 6*s*.; capons, 7*s*. 6*d*. to 9*s*. 6*d*.; pigeons, 6*d*. to 9*d*. each. Hares, 3*s*. 6*d*. to 4*s*. 6*d*.; leverets, 3*s*. 6*d*. to 5*s*.; rabbits, 1*s*. 2*d*. to 1*s*. 6*d*.; and, generally speaking, the influence of the times is felt in the poultry market; everything is dearer than it was last year.

Potatoes are a complete failure, thousands of families are replacing them, for the present, by other vegetables; they are being sold retail at 6*d*. per quartern, and wholesale at 10*l*. per ton; and we must doubtless find some substitute for them for the supply is miserably inadequate. Rice may surely do good service in lieu of potatoes at this juncture. Vegetable marrows are the crop of the season; so abundant has been the supply, that on some occasions they were not worth the expense of sending to market. Onions too are a good crop, accounts generally report a prolific yield, but nothing can supply the vacancy caused by the absence of the mealy potato at the dinner table of the poorer classes. Tomatoes are now in season, and are a delicious vegetable, and may be cooked in a great many ways.

Apples though scarce in some districts are plentiful in others; good cooking apples are worth 8*s*. to 10*s*. per bushel. Pears are a fair average crop. Walnuts are very scarce, and are making 2*s*. per hundred. Turnips and carrots are sound and plentiful, and the season which has proved so inimical to the potato crop would appear to have been especially favourable to the growth of most other kinds of vegetables. Cabbages and winter greens are looking well, as also are celery and Brussels sprouts; early celery is in market at 2*s*. 6*d*. to 3*s*. per dozen. Mushrooms have been plentiful early in the season, but the late dry weather has not been favourable to their growth.

Cheese, like everything else, is dearer, and each year the demand increases for superior kinds without any corresponding increase in the supply; America sent us, however, 58,660 boxes in one week, against 51,936 boxes in the corresponding week of last year. I should advise intending purchasers of Stiltons to lay in stock next month, at latest, as prices will doubtless be higher before Christmas. Best quality hams and prime bacon are making high prices. The sugar market is slightly lower; the coffee market is dull, as also is the tea market. Fresh butter is worth 1*s*. 8*d*. per lb.; fresh eggs from 1*d*. to 1½*d*. each; Friesland salted butter, 112*s*. to 114*s*.; Zwolle and Kampen, 100*s*. to 106*s*.; Jersey, 80*s*. to 96*s*.

In the wine-producing district of Bordeaux accounts of the vintage are, comparatively speaking, favourable.

P. L. H.

NOTES OF THE MONTH.

A HINT TO IMPECUNIOUS PHILANTHROPISTS.

If this should meet the eye of some adventurous individual desirous of at once benefiting himself and humanity at large, we have much pleasure in putting before him, without charge, a bright example in which the advantages to his fellow men and the obtaining of postage stamps may be at once judiciously blended. Having had our attention called to an advertisement in a Sunday paper, stating that the "People's Benefit Association" was prepared to supply "Australian Beef Marrow," as an excellent substitute for butter, at 7½*d.* per pound, and that a sample was obtainable for three stamps, we forthwith invested that sum, and having received the article submitted it unopened to Dr. Muter. The following is his report:—

"The weight of the sample was nearly 33 grains. It was somewhat rancid, smelt disagreeably, and tasted something like stale dripping. It contained:—

Fatty Matters	97·83
Chlorides of Sodium and Potassium	1·95
Water	·22
	100,00

From its melting point, etc., I believe it to be chiefly marrow, but, as a substitute for butter, it was not nearly so palatable as fresh beef dripping. To carry out a full investigation, a larger sample was desirable, and I accordingly applied again at the address you gave, and received a reply intimating a change of address. Following up this intimation, I sent an assistant to the second place, but he returned and stated that he found it to be a milk shop, where he could obtain no further information than that letters reached there, and that they had not seen the man for about a week. I am therefore obliged for the present to suspend further experiments."

Here, therefore, is our suggestion to the impecunious trader. Let him think of some product which he can buy in small quantities, and advertise it for sale, as a benefit to humanity, at a moderate profit, at the same time suggesting some new use for it. Let him put the fact prominently forward that he is prepared to send a sample for trial for three stamps. Very few people will buy an unknown

thing, but thousands will send stamps for a sample, partly from curiosity and partly from its only being "a few stamps," and so not looking like an outlay of money. Now say that the cost of the article is sixpence per pound wholesale, the result will be as follows:—

Cr.—By 212 sets of three stamps			£2 13 0
Dr.—212 samples from 1lb.	£0 0 6		
,, stamps for postages..	0 17 8		
,, paper boxes (say)	0 4 0		
,, printed slips (say)	0 1 6		
		1 3 8	
Nett profit on each pound of material			1 9 4

If any real orders for quantities come in, the trader does a cash business at a profit, and in the meantime the sample idea pays admirably. After this, who shall say that an ingenious man cannot make money in London? The penny post is a true Tom Tidler's ground to those who understand how to turn it to account,—and then think of the benefit to humanity!

Mr. Muntz's Adulteration Bill has, by its third clause, given great offence to the manufacturers of some articles of daily consumption who have hitherto deceived the public with impunity. Coffee has been sold with chicory, burnt sugar, roasted rye, and a host of other adulterants, whilst cocoa and mustard have consisted chiefly of flour, with a little mustard and Cayenne pepper for flavouring purposes. Some of the wholesale houses have very properly refused to deal in many cocoas, mustards, and spices, unless they receive a guarantee from the manufacturer that the article is genuine, or that the outer wrapper or tin containing adulterated articles bear a label stating the composition of the mixture. It may be assumed that this course of conduct on the part of the wholesale houses will considerably benefit the public, whilst the manufacturers themselves will not be over anxious to enlighten the community as to the composition of the articles they have hitherto supplied. A canister of cocoa labelled, "This is a mixture of brown sugar, flour, refuse, biscuit, with a trace of cocoa for flavour;" or a tin of mustard labelled "This is a mixture of flour, Cayenne pepper, turmeric and mustard," would certainly have a novel appearance, but we know in actual practice that some popular articles are quite as heavily adulterated as to justify such description. Certain manufacturers are very irate, and threaten legal proceedings against any wholesale house that may be sufficiently

bold to brand their impure ar[illegible]ord "adulterated." Others, more wise in their generation, ar[illegible]preparing special labels for describing their wares. Doubtless much evasion will be practised, but the public must be on the alert; and now that the adulteration question is to the front, it should not be allowed to slumber until the present unhealthy state of trade is remedied. Three months ago there was scarcely any hope of an Adulteration Bill being passed, but thanks to Lord Salisbury in the Lords, and to his brother and Mr. Muntz in the Commons, the bill was passed through both houses without any trouble or much observation. If some of the commercial members had observed it, such might not have been the case, hence we have now the delightful spectacle of witnessing manufacturers preparing to tell the people the composition of what they are eating and drinking. It is consolatory to those who have long known the secrets of the trade, and who, being well aware of the rubbish sold under popular names, have done all in their power to put a stop to such barefaced deception, to observe the consternation amongst certain manufacturers caused by the Adulteration Act of last session.

We have much pleasure in assisting to raise into his appropriate place in the temple of fame an excellent and praiseworthy butterman, named William Carter, of Fulham Road, who has been condemned to pay 10*l.* and costs for the merely nominal offence of selling putrid rabbits. This interesting martyr to our cruel and severe laws for preventing the turning of an honest penny at the expense of public health, was also charged at the same time with "having 7 cwt. of bacon on his premises in a putrid state, and intended for the food of man." When the inspector seized the rabbits (which were exposed for sale, and for which the martyr was soliciting custom in the usual manner) he very naturally received some abuse, and he actually stated that our friend used very bad language. Notwithstanding the excellent butterman's noble defence that many people eat game which was almost putrid, and that there were several persons who had eaten some of the same lot of rabbits, after the use of salt and water, without fault, yet the magistrate preferred to believe a paid minion of the law, in the person of the medical officer, who stated "that such things were of the most deleterious nature and likely to produce severe evils and diseases at this season of the year, amongst others diarrhœa." What a pity it was that the magistrate did not see his way to sending Mr. Carter to a charitable institution, where an apparatus called

by the name of "treadmill" is in constant operation, for the amusement of well-doers, as it seems to us that a seller of putrid meat is quite as much entitled to the use of that excellent mode of exercise as the starving little urchin who may be tempted to steal a piece of bacon from a shop door. We hope that the authorities are now getting more active, and that we may have some other of the many similar cases, which doubtless occur daily, brought to light without delay. Our columns will always be open to record the names of the gentlemen thus convicted.

Those of our readers who have enjoyed the privilege of visiting the partially exhumed cities of Paestum, Pompeii, and others resting in ashes under the malign shadow of Vesuvius, would no doubt pass La Torre del Greco, and La Torre del Annunziata, towns long famous for their macaroni. It is possible, too, that they may have listened with interest and amusement to the refreshing exclamation "Verdi, verdi," the expression of the Neapolitan's delight when his macaroni, or vermicelli, or fedelini, or whatever other musical and pretty name he calls the material, has been boiled to a second. But if our tourists' ears have been tickled with the melody of the words, how much more must their eyes have been fixed in wrapt astonishment when the lazarone elevated a long string of worm-like filaments in the air, and dropped the whole down his throat with a sigh of satisfaction indicative of having dined well, and at an expense of only two-pence. Seriously, a paragraph which recently appeared in the *Lancet*, calling attention to macaroni as cheap and nutritious food in these days of scarcity and high prices, deserves every consideration. In it we are assured that this preparation of flour contains, "weight for weight, from two to three times as much flesh-forming material as good household bread." Macaroni was originally made from a small, hard-grained wheat, called by the Neapolitans, Grano del Mar Nero, grown in Russia, near the shores of the Black Sea, and sent thence via Odessa and Taganrog to Naples. But it was found that the same cereal, on being fairly tried at Apula, throve and yielded abundantly, so that now most of the Neapolitan macaroni is produced from native grown wheat. It is true that ever since the year 1730, macaroni has been prepared in or near London, and that it figured in an humble position at the Great Exhibition of 1851, beneath the produce of Italy, France, and even Prussia; but its inferiority must have been owing to the absence of demand rather than to inability on the part of the

manufacturers. The enormous price which animal food, rice, and even potatoes have reached would have prompted us to suggest to some influential firm the home manufacture of macaroni; and we are glad to observe, from a recent letter to the *Daily Telegraph*, that an industry which must ultimately tend towards the benefit of the masses has been spiritedly revived in London, by the aid of elaborate machinery and Neapolitan workmen.

The "immortal William," when he created the thirsty being who habitually spent one penny on bread and a pound on sack, must surely have had a mental glimpse at the future guardian of the poor. That the indigent in our midst must be fed and sustained we all know and acknowledge, but we presume the bulk of our readers are not prepared to admit the necessity for the enormous, and we might almost add, criminal expenditure of 32,000*l.* a year on wine, beer, and spirits in the London workhouses, an outlay which does not include the large parish of Westminster. To the ordinary temperate individual of private life, the annual cost of the liquors consumed usually bears but a minute proportion to that paid for his solid food. Apparently, a different practice seems to be the rule in our pauper homes. From a report recently published we observe that the Metropolitan guardians alluded to spend 10,500*l.* a year more on drink than on groceries; 4,500*l.* more on liquor than on butter and cheese; and squander exactly one-fourth of the money in quenching pauper thirst which it costs to liquidate their butcher's bill. It is true that our water supply is so deplorable, both as to copiousness and purity, that even the most rigid economist might pause ere recommending its constant consumption even to the poorest; but we have yet to learn that an already heavily taxed community is bound to disburse 32,000*l.* a year for wine, beer, and spirits—the prime causes of all pauperism—for the workhouses. Those who have dwelt with pleasure and amazement on the wondrous creations of Dickens will remember what prominent and appalling features "workhouse skilly" and semi-starvation are in some of his glowing pages, and be led to inquire, "were his parochial delineations the mere exaggerations of a grotesque intellect, or have we so far progressed towards the bourne of universal equality and fraternity, that our paupers now rejoice in a daily familiarity with '47 port, old tom, and the best brewings of Bass?" Such inquiries would be as natural as replies to them are urgently demanded, and we may rest assured that, unless

an immediate and sweeping reform occurs in parochial expenditure for unnecessary luxuries and alcoholic poison by those who, in the words of Lloyd,—

> " . . . Like true churchwardens eat,
> Because the parish pays the treat,
> And of their bellyful secure,
> O'ersea, or overlook the poor,"

the fermenting dissatisfaction ever and anon bursting indignantly forth from the hard-working, heavily-taxed, middle-class Briton, will go on developing until it culminates in some great social explosion.

When Thomas Carlyle wrote that "all poor slaves are rhizophagous, or root-eaters," and that "their universal sustenance is the root named potato, cooked by fire alone, and generally without condiment or relish of any kind, save an unknown condiment named point," he could scarcely have anticipated that the preparation of this humble and much-abused tuber would one day possess an interest even for Majesty. It appears that the Queen, during her late residence at Holyrood Palace, in Edinburgh, paid an unexpected visit on foot to the guard's quarters, and found a few of the 93rd Highlanders usefully engaged in boiling potatoes; one of the number, indeed, was in the act of probing the lively esculents with a fork, in order to ascertain their progress, when surprised by his sovereign's gracious presence and kindly questions. The supply of an article of food, which thus engages the attention at once of the highest and humblest, must be a matter of grave importance to every philanthropist, and it is with deep regret we observe that a prominent feature of the last two months has been the unfavourable accounts received from various parts of the country regarding the failure of the potatoe crop. The note of alarm has been sounded by Mr. Clarke in the *Times*, who says that if the saleable produce of the entire potato crop of the British Isles is all but destroyed, the loss means something like 1,630,000 acres (besides garden), at say 4½ tons per acre, amounting to 7,335,000 tons, which, at 4*l.* per ton, comes to 29,340,000*l.*, or the value of say 10,000,000 quarters of wheat. It may be thought that, as the same disturbed electrical condition of the atmosphere which lately prevailed likewise marked the occasion of the lamentable potato blight in 1845, a similar calamitous result may now follow, but we have few fears in this direction. Our other crops are abundant, and even from Ireland the cheering intelligence has come that the farmers there have the promise of

the most profuse harvest ever known, which will compensate any loss likely to be sustained in consequence of the potato disease. On the whole, therefore, we may safely say that although the enhancement in price, which is pretty certain to appear before winter, may place the use of this invaluable tuber not only beyond the use of Mr. Carlyle's "poor slaves," and may even temporarily banish it from the guardroom at Holyrood, and from the tables of our working-men, yet our otherwise plentiful crops may enable us to tide over the threatened potato famine.

The unfortunate prevalence of the plague in Russian cattle has caused us to watch narrowly for the least symptoms of the pest in other quarters. It is therefore to be regretted that where the herds and flocks are free from disease some thorough system of breeding should not be adopted, not alone for the purpose of trading directly with this country, but for supplying home wants, for where there is any demand for foreign resources, such demands will to some extent be supplied to the detriment of the trade of other countries. It is remarkable that in these days any country should be so blind to its own interests as to neglect in the slightest degree to propagate and foster its own resources; nevertheless we are told in a report recently furnished to the British Government that in no respect is the falling off in prosperity in the Roumelian provinces of Turkey more noticeable than in the decrease in live stock. The herds and flocks no longer, it is said, suffice to supply even the Constantinople market, and have to be supplemented by large importations from Anatolia. The causes of this falling off in so important a source of agricultural wealth are to be sought for in the utter ignorance of the population in the art of breeding and raising cattle and sheep, but still more, perhaps, in the want of security of life and property, in the heavy taxes on live stock, and in the absence of even-handed justice to deal promptly with cases of cattle or sheep-lifting, unfortunately very common, especially since the immigration of the Circassians, who have not laid aside their predatory instincts, and to whom the local authorities are accused of showing undue partiality.

Mr. Alexander Dean, of the Nurseries, Belfont, sent to the Fruit Committee of the London Horticultural Society, amongst other conserves, an excellent jelly, made from the fruit of *Berberis aquifolia*. It is not indeed a novelty, as it has been constantly prepared in Northamptonshire for at least ten years, and if the

birds will spare the fruit of this, as also of *Berberis dulcis* and *Berberis Darwinii*, it is undoubtedly an important acquisition, especially in a year like the present, when currants have suffered so much from the aphis blight of 1871. It is right to remark that in consequence of the comparative deficiency of pectic acid in the fruit, the produce is rather a rob than a jelly, prolonged boiling producing what is commonly called a cheese. The flavour is excellent, and is quite as good an accompaniment to mutton or venison as ordinary currant jelly, though not like that, transparent or of a true jelly consistency. It is prepared in exactly the same way as currant jelly, the quantity of sugar being proportioned to the acidity of the fruit. The seeds are so large as to make the fruit unfit for jams, though we have seen it preserved in that form, the colour being peculiarly brilliant. Specimens also of blackberry jam were sent at the same time, which had, however, nothing peculiar about them. It may not perhaps be generally known that, from the citrate of potash which the fruit contains, the preserve is more fitted for gouty subjects than most others. With the addition of a *small* quantity of apple, blackberries make a most excellent tart, quite free from the vapid flavour which is sometimes complained of. As the seeds are large, and to many persons disagreeable, it is better to use the expressed juice, but here again is a deficiency of pectic acid as before, and a syrup, or rob, as also is the case with mulberries, will be obtained more certainly than a jelly. One great advantage, moreover, in growing the different kinds of the sweet fruited berberries is that, in consequence of the birds being very fond of them, they act as preservatives for our other fruits.

In India the milk of the cocoa-nut is used as a substitute for cod-liver oil in debility and incipient phthisis, and in tea and coffee in the place of cow's milk. In large doses it acts as a cathartic and substitute for castor-oil.—*Good Health.*

It is a cardinal principle of French cookery that water which has had anything boiled in it is sacred. Hence these deliciously appetising soups. And they say that the English will boil the very best leg of the very best mutton on earth until a large fraction of its succulence and nutritiveness is gone out of it, and then put the residuum on the table, and throw away the liquor, which is the very essence. —*Good Health.*

A Novel Suicide.—Last month we noticed the case of a man who committed murder because he was not supplied with his favourite dish at a restaurant. This month we have another horrible story, also from France, of a soldier who, having failed in his first attempt at soup-making for his mess, was so jeered at by his comrades, that, in despair of ever hearing the end of the affair, he took his rifle and deliberately blew his brains out.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

TO PRESERVE VEGETABLE MARROWS.

Peel the marrows, take away the seeds, cut the vegetable into small pieces; to every pound of marrow add half a pound of sifted loaf sugar, the rind and juice of a lemon, and half an ounce of grated ginger; put the whole into a basin and let it stand all night. Next day pour the juice into a pan and let it boil, then add the vegetable. Boil altogether for an hour and a half, or until it becomes thick and transparent. If put into a mould it would not affect the acid, and the preserve will look very nice when turned out for use. Most vegetables may be prepared in the same way.—*The Garden.*

CUCUMBER CATSUP.

We take the following from the *American Agriculturist*:—"Gather the cucumbers when full grown, but before they turn yellow; peel and grate them; let the pulp remain upon a cullender until the juice drains off; then rub through a coarse sieve, to separate the seeds; half fill bottles with this pulp, fill up with vinegar, and keep well corked. This retains, in a marked degree, the odour and taste of fresh cucumbers, and is excellent with cold meats. When served upon the table, salt and pepper are added. We extemporised an efficient grater for this purpose by punching holes with a large nail in the cover of a superannuated wash-boiler."

MY GRANDMOTHER'S RECIPES *(continued).*

BATTER PUDDING.

To a pint of milk put three spoonfuls of flour and five eggs, four whites, nutmeg and sugar to taste; butter the cloth; an hour will boil it. Serve with melted butter and sugar.

LOBSTER SAUCE.

Cut the lobsters very small and boil in as much water as you want sauce, with a little beaten mace and whole pepper. Boil it a quarter of an hour, and then thicken with butter and flour.

MINCE PIES.

Four pounds of apples (Kentish pippins) chopped very fine, 2 lbs. of currants, 2 lbs. of raisins stoned, and 2 lbs. of suet chopped. Mace, brandy, lemon-peel, and lemon-juice well mixed together. Put in a jar and a paper wetted with brandy over it.

BLANC MANGE.

Take 1 quart of milk and 1 oz. of isinglass; boil them together till the latter is dissolved; strain through a piece of muslin. Sweeten, and add a little rose water.

TO MAKE A LIGHT BUN.

Take 2 lbs. of flour dried by the fire, add half a lemon-peel chopped fine, half a nutmeg grated, and 6 ozs. of sugar. Melt 3 oz. of butter in 1 pint of new milk, and put to it when cool two eggs, leaving out the whites, with two spoonfuls of yeast; pour these into your flour and beat all well together; set it before a fire to rise; bake them in saucers a quarter of an hour. Just before you put them in the oven add ½ lb. of currants dried by the fire.

THE

FOOD JOURNAL.

THE LICENSING ACT.

MR. BRUCE'S Licensing Act has, during the last two months, been a fruitful subject for discussion, both in the press and in the magistrates' courts.

In the press the Act has been assailed and also praised; but without doubt it has done much good, and before long the publicans will have become reconciled to it, and will feel thankful that their hours of labour have been curtailed.

The licensing magistrates in different towns, although empowered to fix the hours of closing public-houses within their jurisdiction, have very properly adhered to the hour mentioned in the Act, viz., 11 p.m.; a time when even the most ardent admirers of public-houses and public-house company should be thinking of going home. Another beneficial alteration has also taken place in the quality of the beer sold. Many London brewers have noticed a very large increase in the consumption of beer, and the publicans' orders have increased considerably since the Licensing Act was passed. Some of them say this increased consumption can be fully accounted for by the prosperity of the country, and that the Licensing Act has had nothing to do with it. Others, with perhaps more truth, say that the adulteration clauses have frightened the publicans, and prevented them from calling in the services and adopting the nostrums of the brewer's druggist or the cunning cellarman. The fear of losing his license, and the dread of fine and imprisonment, and the placarding of his offence on his own premises, have been too much for the publican, who has very wisely abandoned, for the present at all events, the general adulteration of beer. The darling method of preparing London porter for sale was till recently an addition of "foots" sugar and water, with salt, or a dash of green vitriol (copperas), to give the mixture a

proper "head." Sometimes a little liquorice was used, and the brewer's druggist, whilst scorning "foots" sugar, supplied a treacly substance prepared, not from loaf sugar, but from the washings of sugar hogsheads and sugar bags, the liquid being afterwards boiled down to the proper consistency. This precious stuff will doubtless be considered nasty by fastidious porter drinkers, but it is nevertheless true that gallons of it have been sold for diluting porter, and that most of the porter drinkers of the metropolis have at times partaken of this delightful beverage. Why such a mixture has been made admits of an easy explanation. In the first place, the porter when received from the brewers is not sufficiently lively for immediate consumption; and, in the second place, the price paid for it (about 32*s.* a barrel of 36 gallons) does not allow a sufficient margin of profit when the porter is sold at 1*s.* per gallon. To remedy these two serious difficulties, the publican who uses the saccharine adulterant, either in the shape of "foots" sugar or of the concentrated washings of sugar bags, etc., takes out of the barrel of porter about six or eight gallons, and adds this to the stout. The stout is thus diluted, and the profit increased on its sale, whilst the barrel of porter is made up to the original bulk by the addition of the saccharine adulterant and lukewarm water in variable proportion.

The increase in the temperature by addition of the water causes the porter to ferment, the yeast left in it acts on the sugar, and the fermentation thus set up causes the porter to sparkle and carry a head till the barrel is empty. In this manner the public are deceived, and, as an illustration, we may cite the case of a publican who always used "foots" sugar in the way described. The brewery from which he obtained his usual supplies having been temporarily closed for enlarging the premises, he had to obtain his beer from a brewery famed for the goodness of the beer brewed there. The publican was afraid to add the sugar to this beer, being doubtful whether it would bear the usual manipulation, and he feared such a mixture would not suit the taste of his customers. The consequence was that this genuine porter drove away the custom from the house, till, in self-defence, he was compelled to resort to his old practice. So much for custom.

As to the profit to the publican by this adulteration, the price of the sugar and water is about twopence a gallon, a price which leaves a good margin of profit when it is sold as beer at a shilling a gallon.

Mr. Bruce's Act has, doubtless, caused a panic amongst beer adulterators, and it is hoped that the vigilance of those entrusted

with obtaining samples will cause this panic to subside into a wholesome dread of the penalties of the law. Fear under such circumstances is a wholesome feeling, and one that will do much good to the general public. There is one very ugly word in the adulteration portion of the Licensing Act which is underlined in the next sentence. "Every person who *knowingly* sells or keeps, or exposes for sale, any intoxicating liquor mixed with any deleterious ingredients," etc. The prosecution will, in some cases, have great difficulty in supplying evidence to prove that a person *knowingly* sells adulterated drink, and without such evidence the case must fall to the ground. However, a prosecution or two will show the blemishes in the Act, and happily the subject of drunkenness is of such national importance that the Act must be altered where necessary to carry out the original intentions of the legislature. The matter cannot rest if guilty persons can escape, and there is reason for confidence in public opinion to remedy any defects in the part of the Act dealing with the adulteration of intoxicating liquors. It is only necessary to set the machinery of the Act vigorously in motion, and there is no doubt all adulterators will be on their guard, when detection means ruin, and when they may be pounced upon at any moment by those who have to obtain samples for analysis.

CHESTNUTS.—This abundant fruit may claim a place, not equal to that of the haricot certainly, but still an important place, amongst the substitutes for potatoes. The roasted chestnut is well known in England, but in France and other countries it is an important article of consumption. There are two kinds of chestnuts in general use, the wild variety known in France as the *châtaigne des bois*, and the great cultivated nut called *marron*. The former are small but very cheap, while the latter are large and highly nutritive. The sale of roasted chestnuts in Paris is enormous, and is principally carried on by Savoyards, who come from their mountains for several months to roast and sell what are amusingly called by the Parisians *winter swallows*. But the chestnut enters regularly into the French *cuisine;* it is used to make stuffing for turkey, and from it is made a *purée*, named after the great Condé, who was a famous *gourmet* as well as a general, which is eaten with many dishes in place of mashed potatoes, and is much liked by those who relish a certain amount of sweetness in such preparations. Boiled chestnuts are also eaten largely in some districts, connoisseurs adding a little butter to them when cut open, but utterly repudiating salt with them, in which we think they are decidedly wrong. In Corsica they form a large part of the food of the country, and in the south of France, and in Spain, they are largely consumed. The chestnut certainly ranks among the most wholesome and nutritious fruits, and deserves more consideration than it receives in English houses.

GUARANA.

As there seems to be some probability of guaranà being imported into this country as an article of food, it may be well to state concisely what is already known respecting its nature and effects. Very little has been written upon this subject, but we may safely rely upon the authority of Mantegazza, who has thoroughly examined it.*

Guaranà was scarcely noticed by European writers before the middle of the present century. Its essential principle was discovered by Martius, in 1840, to be identical with caffeine. An analysis by Trommsdorf shows that it contains caffeine, 4; green oil, 3·5; resinous-oleaginous matter, 2·5; tannic acid and salts, 40; starch and gum, 16; vegetable fibre, 30. Stenhouse found in some cases 5.7 of caffeine. It will be seen that guaranà is richer in this essential principle than coffee, which usually contain ·8, or than tea, which varies from 1·13 to 1·97 per cent.

The guaranà-uva, known botanically as the *Paullinia sorbilis*, from which the beverage guaranà is made, is a small climbing shrub, growing chiefly in the north of Brazil, and on the banks of the Amazon and its tributaries. About the months of October and November the fruit is peeled, dried, reduced to powder, and made into a paste with water. Very brown guaranà has been overdried, and is of inferior quality. Guaranà is made up into solid cylinders of about 200 grammes, and is usually of a chocolate colour. Its flavour remains long in the mouth; it can be made with cold water, and when sugar is added to this it makes a beverage pleasing to nearly all palates. Mantegazza warns those who wish to try experiments with this plant, that the substance sold by the European druggists is sophisticated, and not to be taken as genuine. When of good quality, the article costs at Rio Preto, where it is made, 1of. per kilo.; at Rio de Janeiro from 2of. to 24f. per kilo. In Bolivia and other parts it is much dearer.

The Indians of the Amazon carry this aliment, in its prepared form, with them on their journeys; and our author says, that as a

* Mantegazza has published a separate treatise "*Del guaranà, nuovo alimento nervoso*," Milano, 1865, but in this article we follow the later details of his *Quadri della Natura Umana*, Milano, 1871, vol. ii., p. 246.

food for travel guaranà has no rival, since it resists the sun's heat, humidity, putrefaction, and time, and the beverage can be improvised from it wherever there is cold water to be had. In the Antilles they say that guaranà renders its drinkers eloquent. It might be worth while to import a supply for the benefit of some of our M.P's. It has been used medicinally for continued diarrhœa, and in diseases of children, where strong opiates or astringents would be dangerous. The powder is generally given in doses of, first, 6 grains, then 12 grains, afterwards 24 grains, to be taken six times in 24 hours. Its efficacy in the cure of head-ache and neuralgia has been asserted, but there seems reason to think that after two or three doses its beneficial effects vanish; 2 or 4 grammes added to sugar and water, make a cool drink for the hot weather. "Between breakfast and dinner, in the warm days of June and July, there is not a beverage more healthful and refreshing than a fresh cup of guaranà. After drinking it one feels re-invigorated, having, in a manner, partaken at once of food and drink." The chief recommendation of this over all other aliments of the same class, is the ease with which it can be prepared, as it requires neither grinding nor hot water; it can be eaten in the solid form, and requires only cold water to convert it into an acceptable beverage. Like all the class to which it belongs, guaranà is not without its dangers. In doses of from 0·5 to 4 grammes, the effects upon the human system are to produce exhilaration, convulsive inquietude, exaltation of intelligence, wakefulness, slight diminution in the heart beats, want of appetite and costiveness; when taken immediately after dinner it may disturb the digestive functions. It sometimes causes a sort of a nettle rash, and also spasms of the bladder.

Guaranà is said to be very effective in aiding those long spells of intellectual labour in which literary men sometimes indulge to the detriment of their physical health. In this respect it is more efficacious than tea, coffee, or mate. Finally, it may be well to warn all Malthusians that guaranà has the reputation of being an aphrodisiac.*

W. E. A. A.

* Since this article was written, Dr. Samuel Wilks has called the attention of the English medical public to the therapeutic value of guaranà, and in the *Lancet* of October 5th, details its successful application in various cases of headache, etc. In this connection it is important to bear in mind that, although it has been praised as a panacea for almost all diseases, foreign experience shows that its effects are only transitory, that it is not so much a remedy as a relief, and that a few exhibitions deprive it of its virtues.

FISH CULTURE.

WHEN meat and other things are as dear as they are at present, every one who can point out a method of increasing our food supplies is morally bound to do so, and we are glad to find Mr. Buckland drawing attention to the neglect of our ponds.

It is only of late years that any consideration has been given in Europe to pisciculture, while the Chinese have made rivers and ponds their study and care for ages, with admirable results; and some account of what they have done may stimulate action in our own country.

M. Dabry de Thiersant, French consul in China, has sent a highly interesting communication to the Paris *Société d'Acclimatation* from which the following is abstracted :—

Thousands of years ago irrigation was carried out in China to a degree unknown elsewhere, rivers were opened up, great lakes dug, and canals and channels for water formed to refresh the rice fields and other grounds under cultivation, the water being in many places raised to considerable heights by admirable, though simple, hydraulic machinery, and then utilised throughout its entire course back to the plains from which it had been elevated. Pisciculture followed immediately afterwards, and was, as far as we know, the invention of this industrious nation. At the present time not only are the rivers, lakes, and ponds swarming with fine fish, but the fish-tank, or pond, is as common in the Chinese farm-yard as the rabbit-hutch. A curious reference is made in a recent work relative to Japan, by the Marquis de Beauvoir, to the fish-ponds of that country; the author saw a number of girls one evening apparently trying to frighten a mass of fish in the pond of a tea-garden; they were sending them to bed! It appears that the heron and other birds devastate these ponds unless precautions are taken against them, so, in this case, the pond was situated by the side of a rock which was hollowed out, and every night the carp were sent in there to roost, and had a gate shut upon them.

The Chinese, in old times, selected the best kinds of fish for breeding, and called them family fish, and these are found in the fish-tanks and basins of every farm; they belong to the Cyprine family, are herbivorous, fatten fast, and grow rapidly to a large size. A French ichthyologist has named these various kinds—

Leuciscus Idellus, *L. Æthiops*, *Hypophthalmichthys Dabryi*, and *H. Simoni*. It may be mentioned here that one or more kinds of Chinese fish are exhibited alive in Mr. Buckland's fish museum, at South Kensington.

The Chinese did not know, or did not practise artificial fish culture until within a few years, and they maintain that fish so bred quickly degenerate; their method is to collect the spawn or the young fry and then bring them up in a natural way. This kind of fishing has become a special industry in the central provinces of the empire, watered by the Yang-tsze-Kiang. M. Dabry de Thiersant says that he saw, several years running, in the month of April, more than 150 junks, of considerable tonnage, laden with fry for the interior of the country, where they are sold for the supply of the ponds and tanks, the management of which, in China, he has described in detail in a special work on the subject.* The author adds that the aquatic plants, with which the fish are fed as regularly as fowls with grain, are abundant in France, and that the only difficulty that presents itself is the importation of the spawn or fry. This difficulty has, however, already been overcome to some extent.

The Chinese legislation for the protection of the fish, and for their propagation, is wise and positive; during six months of the year fishing is prohibited in lakes, canals, and water courses which do not communicate with a great stream or a river stocked with fish. How long this law has been enforced is not known, but the following Chinese stories illustrate the subject:—

"In the year 1222 before Christ, a sovereign of the dynasty of Tcheou expressed a wish to go fishing with his consort; it was at the period of the fourth moon, that is to say, spawning time. One of the chief ministers threw himself at the feet of the Emperor and beseeched him to remember that he would, in so doing, violate one of the most important laws of the country, that he might be the cause of ruining the alimentation of the people, and would then have a severe account to render to history. 'Thou art right,' replied the Emperor, 'he to whom heaven has entrusted the government of a nation ought to conform to the dictates of reason, and watch without ceasing over the interests of his subjects: otherwise he is not fit to reign.'"

Another sovereign, of the same dynasty, amused himself fishing in one of the ponds of his own palace grounds, this also was during spawning time, when the Emperor raised the net out of the water one of the ministers coolly began cutting it to pieces. "What are you doing?" shouted the Emperor in a fury. "I am fulfilling my duty," coolly replied the minister Lyke; "we all owe obedience to the law which your majesty has charged me to enforce." The

* "La Pisiculture fluviale et la Pèche en Chine," Masson, Paris.

Emperor accepted the lesson, made the inflexible minister a grand present, and ordered that the remnants of the net should be hung up in a conspicuous part of the palace as an example for future generations.

The preservation of the fish, and the police of the river, are placed, in China, in the charge of mandarins specially devoted to that service, and many private individuals hold hereditary right of fishing in the various cantonments. These latter are called *kouan-hou* or *kouan-ho*, pay an annual rent to the state, and are bound by the following regulations:—1. At given periods of the year to turn into the waters a quantity of fry in proportion to the extent of their cantonment; 2. To watch during the spawning season, and take care that the communications between the lakes and rivers are always free, so that the fish may deposit their spawn; 3. To prevent any person fishing between the months of April and September, and to take care that nothing is done to injure the fish in any way. No one can fish without the written permission of one of these fishery farmers, who, of course, charge a good sum for the document; the system is for fishermen to form associations with a headman, who makes all the arrangements with the authorities. There is no restriction whatever with respect to the nets or traps employed. These regulations apply not only to lakes, but also to all streams, with the exception of great rivers, which fall into the sea; in minor rivers the interdiction only applies during three months in the year; in the great rivers there is no restriction at all, any one may fish there all the year round.

In consequence of the regulations above referred to, and thanks to the universal adoption of fish-ponds and tanks in which the so-called family or domestic fish are preserved and fattened, fresh water fish form a considerable portion of the food of the population, and this has been the case for centuries without the supply falling off for a single year.

What a contrast, says M. Dabry, with the circumstances in our own country, where fresh water fish has already become an object of luxury, and threatens to pass into a myth! Yet, he adds, there are few countries so well watered as France, which contains, according to Rauch, more than twelve thousand leagues of river, and half a million leagues of minor streams, to say nothing of lakes, ponds, canals, and basins of all dimensions.

The species of fish which live in these waters are almost equally productive; pike, carp, tench, etc., give annually hundreds of thousands and even millions of eggs and fry, of which, unfortunately, the greater portion have no chance of coming to

maturity on account of the incessant war waged against them. The want of provision here exhibited almost justifies the lines of Boileau:—

"De Paris au Japon, du Japon jusqu'a Rome,"
"Le plus sot animal à mon avis, c'est l'homme."

In our ignorance and thoughtlessness we respect nothing, and we find amusement in foolishly destroying what is necessary for our own existence. If our waters have become sterile it is not the fault of nature; we have nobody to accuse but ourselves and our miserable egotism.

One of two things is true, either our legislation respecting hunting and fishing is good, of which there may be question, and should be enforced, or, it is imperfect and should be amended. As soon as this question is settled the Acclimatisation Society will give its attention to the introduction of several species of fish which have been noted, and of which the naturalisation is all the more desirable from the fact that the number of species in French rivers does not reach fifty while in China they count many hundreds, according to the author's personal observation. Within three years M. Dabry, at the instance of the society, collected in China more than a thousand species of river and sea fish, the greater part unknown to ichthyologists, and had careful drawings made of each.

In addition to the domestic fish named above, M. Dabry insists on the policy of introducing into the waters of France the ophicephalus and the loche of China, the Danube salmon, the great trout, and the fera of Lake Leman, the sandre or giant perch, the gourami of Cochin-China, which Commerson declares to be the most exquisite of all fishes, and, lastly, the barbeau of the Nile, in the mouth of which the Egyptians put the following saying:—"If you know any better than I am, do not eat me." For, he adds, it is of the greatest possible importance to multiply, as much as possible, a kind of food so rich in azote as fish, and so valuable in improving the alimentation especially of our peasants, and for the increase of the physical and numerical force of the nation.

F. F. P.

HARICOT BEANS.—The proprietor of the City Restaurant announces that, in order to make haricot beans more generally known, they are in future to be dished up in various ways at his establishment, thus giving practical effect to the suggestion contained in a recent number of this Journal.

THE FOOD CONTROVERSY.

THE attack made by one of our most eminent physiologists, Dr. Edward Smith, F.R.S., on the three-headed Cerberus of modern domestic food economy, Australian meat, Liebig's extract and condensed milk, naturally attracts some attention. There is much confusion both in Dr. Smith's statement and in the replies which have been given to it. The two questions which have been much involved are those of price and of nutrition. Let us shortly examine these separate points of argument, which ought to be kept perfectly distinct.

My own personal experience leads me to the conclusion that a 4lb. tin of Australian beef lasts, at hearty meals, for four adults at two dinners, giving ½lb. of cooked meat for each individual, the cost being exactly 3¾*d.* per head for a good meat dinner. Could the same amount of nutritious matter be obtained at a cheaper price? The total weekly expense, supposing my family were to live every day on Australian meat, would be 8*s.* 11*d.* I may contrast this economical disbursement with that of the improvident labouring man, whose "Sunday's dinner" too often costs this sum at the present extravagant price of butchers' meat, and who is often in a state of semi starvation towards the end of the week. It would be possible for me further to reduce the consumption of Australian meat by the introduction of inexpensive farinaceous food, but dyspepsia warns us that suet dumplings are no substitutes for kreatine and its congeneric organic substances.

Dr. Thudichum has told us what are the component parts of flesh which, the albumen being subtracted, are worth preserving. I make no excuse for transcribing the quotation ("Chemical Pathology")—

"Beef tea contains a great number of remarkable ingredients. Kreatine, $C_4H_9N_3O_2$; kreatinine, $C_4H_7N_3O$—the former a neutral body, the latter a powerful organic base, which also appears in the urinary excretion; uric acid, $C_5H_4N_4O_3$; xanthine, $C_5H_4N_4O_2$; hypoxanthine or sarkine, $C_5H_4N_4O$; guanine, $C_5H_5N_5O$; all of which appear in the urine of man, or of the lower animals; taurine, the body obtainable from taurocholic bile acid, and which may therefore, perhaps, be formed in the muscles and carried to the liver, or be formed in the liver and carried to the muscles, or be formed in both in different ways; inosic acid, $C_5H_8N_2O_5$,

and acids of analogous composition; further, bodies free from nitrogen, as paralactic acid, $C_3H_6O_3$, formic, acetic, and butyric acids; glykogen, the same as that in the liver; dextrine sugar, or grape sugar, and a particular kind of sugar also found in the green shells of French beans—namely, inosite, $C_6H_{12}O_6+H_2O$. The total of these bodies which are known amounts to two grammes from the extract of 1,000 grammes of flesh; but the total amount of extract obtained is 12 grammes of organic matter."

All these ingredients are to be found represented (in some form) in Australian meat.

That the Australian meat suffers a partial loss of albumen, muscular fibre and organic salts, as well as from a peculiar change in the character of the fat, may be admitted. That the loss of albumen is not rather an advantage, I deem it hardly necessary to argue, albumen being as innutritious a substance as it is possible to imagine. That the loss of muscular fibre, and the organic salts derived from its decomposition is a defect must be admitted, but whether it is not counterbalanced by the difference in price may be successfully argued. Absolute perfection in food cannot be expected for 3¾*d.* a head per statute adult. But that dyspeptic invalids are able to eat the fat of Australian meat spread upon bread as dripping is a notorious fact. It becomes, even amongst those families who are far from being fat eaters by predilection, a domestic calamity when the Australian beef tin contains more than the usual proportion of lean meat. The slight acidity of the fat is an advantage rather than a detriment.

I intentionally pass over the argument with regard to Liebig's extract, as the controversy which has taken place between Thudichum, Druitt and others renders it desirable that further statistics and experiments should be carried out, and I have already alluded to this subject in the pages of the *Food Journal*, June, 1871.

With reference to the manner of cooking Australian meat, so as to produce the most sapid, tasty and nutritious food, on this subject the wildest propositions have been made. But the workhouse master, who, a few weeks ago, proposed seriously to give the inmates of some metropolitan workhouse Australian meat chopped with salad was, perhaps, the greatest example of the principle "how not to do it." Soups, stews, and curries can be made with it, and may be flavoured with any substances the taste of the individual may suggest. The absence of gelatine, at least in a free state, in the Australian beef may, perhaps, lead many to ignore the *mayonnaise*, but we are confident that a good dish under that well known form might be produced, if the skill of the cook was adequate to the preparation of such a *plât*.

While giving its due to the Australian beef, I am bound to

mention that some of the tins of Australian mutton contain a large number of small bones, which should have been removed prior to the packing, and the presence of which invalidates any general chemical conclusions that could be drawn from the proportion of meat-producing substances.

I cannot speak with approval of some of the more complicated forms of food supplied from Australia. The "kidney soup," which I have tasted, though sold at an extremely moderate price, appeared to have undergone some chemical transformation, probably on account of the urea in the kidneys, the result being extremely nauseous, and, I should imagine, scarcely wholesome.

The argument of Dr. Smith with regard to condensed milk, appears to be based on confused statistics. He gives 10*d.* to 1*s.* as the price per tin of the pound cans of condensed milk, the fact being that the Anglo-Swiss milk is sold at 8½*d.* per tin, and the Aylesbury Company's at 8*d.*

That these milks both contain all the properties of the original cow's milk, it is needless to argue. In favour of the use of condensed as contrasted with fresh milk, the opinion of Mr. John Simon, F.R.S. (Medical Report to Privy Council, 1870, p. 62), may be adduced, he says—

"Negative results would, of course, be expected where only boiled milk has been used; but from consideration of the evidence I think it probable that dilution of milk, and also mere lapse of time, may have to be taken into account, and that milk which after dilution or after some hours delay does not infect, might have infected if taken neat or fresh."

That the use of preserved meats, milks, or extracts is not in any way damaged by the eloquence or ingenuity of Dr. Edward Smith is the generalisation which I wish to impress on your readers. A large food supply of meat is a necessity to our population, and unless chemistry, physiology, and mechanics are applied to aid our housekeepers a famine must come upon the land which will destroy not only our culinary objects, but the common food of all classes.

C. CARTER BLAKE.

POTATO SUPPLY FROM GERMANY.—The *Daily News* recently stated that, "In consequence of the partial failure of the potato crop in this country, and some parts of Ireland and Scotland, attention has been attracted to Germany, where the crop this year has been very abundant and free from disease. Last week there was a large arrival of potatoes in Hull and Grimsby from the Continent, and we now understand that two large steamers have been chartered to carry cargoes of potatoes from some of the principal ports in the Baltic, Antwerp, Bremen, and Brussels; and that insurances to the extent of from 8,000*l.* to 9,000*l.* have been effected on the cargoes which are expected to arrive in Liverpool in about three or four days."

NATAL GARDEN FRUITS.

(Conclusion).

In regard to the "white mulberry," it must be understood that it is not, in reality, the fruit which is "white." The fruit is as black as its larger and more generally known relative. It is the tree, or rather the foliage of the tree, which has earned the qualifying epithet. It is so called simply because the foliage has a lighter tint of green—especially on its under side—than that of the large dark-foliaged mulberry.

Both *M. alba* and *M. multicaulis* are promiscuously spoken of as the white mulberry, and both are of equally high value as a food for the silkworm. They bear leaves in Natal 6 in. or 7 in. long and about 5 in. broad. The China Mulberry, whose foliage is quite as much relished by the worm, yields leaves of enormous dimensions, frequently being from 9 in. to 10 in. long, and from 7 in. to 8 in. broad. Another species, with much smaller and deeply-notched leaves, known as the oak-leaved mulberry, is also eaten by the worm, but by no means with the same avidity or with such good results.

The fruit of the white and China mulberry in Natal is not above one-third the size of the luscious black mulberry of England; but although it has a more restricted supply of the rich highly-flavoured purple juice in its little seed-chambers, it has, on the other hand, the compensatory advantage that it is less woody in its substructure. The central receptacle upon which the superficial juice reservoirs are arranged is so much more succulent, that it is scarcely a drawback upon the esculent qualities of the fruit when fully ripened, or otherwise mollified by the application of culinary art. The berry is, under all circumstances, a very refreshing and pleasant food, and under the most favourable conditions of soil and management becomes large and juicy enough to rise into distinguished excellence. With such help it occasionally approaches very nearly indeed to the flavour of the best kinds of the black mulberry. It is very wholesome, and has the valuable habit of being borne by the trees in great abundance through a surprisingly long season of ripening, and also of yielding a second crop in the luxuriant Natal summer. It is deservedly in high favour with the colonists both when plucked fresh from the tree on the sultry summer day, and

when enlisted among the contributions to the oven and stew-pan. The fruit of the oak-leaved variety is, on the whole, inferior, however, to that of the other kinds.

These mulberries are all deciduous trees in Natal. They put out their leaves about the end of July, or the beginning of August, when the mean temperature of the month ranges from 52° to 66°, and are only for a few weeks bare of foliage in the months of May and June. They grow with the utmost facility, propagating immediately, and with unfailing certainty, from slips stuck, however carelessly, in the ground. The difficulty is rather to keep them from smothering themselves with over-ready luxuriance than to make them grow. The plant shoots up rapidly into a tree of moderate dimensions, if not very vigorously and persistently lopped and pruned, and then sometimes splits asunder through the centre of the soft wooded main trunk by the sheer stress of the heavy canopy of foliage pulling and swaying opposite ways with the wind. I remember one notable illustration of the extraordinary vigour and vital force which these trees possess in the genial climate of Natal. It happened upon one occasion that a heavy hail storm entirely stripped the mulberry trees, in my own garden, of their leaves, in the month of February, the very middle of the South African summer. They were, notwithstanding, again in full foliage, and laden with an unexceptionable crop of fruit, in the month of May, which about corresponds with the month of November in the English sequence of the months.

No account of South African fruits that are of economical value which excluded the Cape gooseberry could be held to be complete, although the plant which yields this fruit is in reality a wild rather than a garden species. The Cape gooseberry would, perhaps, have been more properly mentioned, on this account, in connection with the Amatungulu* and Kei apple rather than with the granadilla, yellow peach, and white mulberry. The plant which yields the Cape gooseberry grows wild throughout the Cape of Good Hope districts, including the colony of Natal, and seizes of its own accord upon rubbish heaps and neglected corners of gardens. It is the *Physalis pubescens*, and in general aspect very strikingly resembles the potato, of which, indeed, it is a near relative. It belongs to the same "Nightshade" family (Solanaceæ); but the broad leaves and straggling stems are woolly instead of being smooth, as indicated by the specific designation, "pubescens." The fruit immediately suggests the "winter

* In the preceding article on Natal Fruits, "Amatungala" should have been spelt "Amatungulu."

cherry" of the old-fashioned gardens of England, which, indeed, is another species of the botanical genus, *Physalis*, so far as its general physiognomy is concerned. It is a berry, and hangs in the same way, in a thin, whitey-brown, paper-like capsule. When taken from the capsule, this berry has a skin as smooth as that of the cherry, and ripens with a yellow hue, very nearly approaching that of the yellow gooseberry. The ripe fruit, however, is much less transparent than the true gooseberry—more nearly globular, and, in fact, more cherry-like in form, surface, and substance. It consist of a pulp about as juicy as the cherry, but has in this pulp a number of small seeds instead of a large stone.

The fruit is most commonly seen out of its papery capsule, being gathered by the natives and brought in for sale in baskets. It is very largely and generally consumed, both in its fresh ripe state and in puddings, besides being made into a preserve, and enjoys a considerable amount of public estimation, being accepted by many persons as a worthy substitute for the English gooseberry. It has, nevertheless, a coarse rank taste that does not reconcile itself to more fastidious palates, and when served in the form of pudding exhales a strong rank smell, which also is too suggestive of its Nightshade affinities to find entire acceptation with the botanically prejudiced mind. As in the case of the Amatungulu, so here it is a curious and notable fact that a fruit in such extensive use as an accepted article of diet is in reality the production of a most deadly tribe of vegetable organisation having amongst its close relatives, among others of equal ill-omen, the deadly Nightshade, the Henbane, the Stramony, the Tobacco, the Mandrake, the Winter Cherry, and even the fell *Acocanthera Venenata*, which is employed by the Hottentots for the poisoning of their arrows. The general notion, which, however, perhaps requires yet further investigation, is that the poisonous property of the tribe, so far as the fruit is concerned, is restricted to a kind of pulpy matter which is developed round the seeds, and that the harmless fruits of the tribe, such as the Cape gooseberry, are destitute of this poisonous element, and have their succulent parts formed entirely of the juicy enlargement of the sarcocarp, or intermediate layer of the rind of the capsule.

The Cape gooseberry is ordinarily preserved by being boiled whole in syrup, in which condition it is constantly found in the ménage of the stewards of Indiamen that touch at the Cape; but in its most choice condition the preserve is served as a bright, golden-coloured jelly, with the seeds.

R. J. Mann, M.D.

CHEAP DISHES.

PART III.

No. VIII.—A WELSH RARE-BIT.

BRILLAT-SAVARIN, the famous French *gourmet*, gives us the history of the above well-known dish. Towards the end of the seventeenth century a Monsieur de Madot was appointed to the Bishopric of Bellay, and arrived there to take possession of it. Those who were appointed to receive him had employed all the resources of the kitchen to celebrate his arrival. Among the side dishes was a colossal Welsh rare-bit, to which the newly appointed bishop helped himself freely; but, to the universal astonishment, judging from the exterior that it was a cream, he partook of it with a spoon instead of using a fork, with which, from time immemorial, it had been eaten, for the rare-bit is a good old dish, and, strange to say, originally Swiss. The guests were amazed at the bishop's peculiarity. They glanced at each other with scarcely repressed smiles, but respect kept them silent. The incident, however, got abroad, and on the morrow the first thing everyone said, on meeting a friend, was: "Well, do you know how our new bishop ate his Welsh rare-bit last night?" "Yes, yes; he ate it with a spoon; I was told by a person who saw him," etc. The town gossips transmitted the fact to the country, and in three months it was known throughout the diocese. Thereupon innovators sprung up and defended the use of the spoon; but they were put down, and the fork triumphed.

This French author would, I fear, have had a contempt for cheap dishes. He was luxurious in the highest degree. Nevertheless, I shall give his receipt for a Welsh rare-bit, supplementing it with the more general way of preparing this popular dish. Brillat-Savarin gives the following receipt taken from the papers of M. Trollet, bailiff in Meudon, in the Canton of Berne:—Take as many eggs as you wish, according to the number of guests, and weigh them; then take a piece of cheese weighing a third of the weight of the eggs, and a slice of butter weighing a sixth; beat the eggs well up in a saucepan, after which put in the butter and the cheese, the latter either grated or chopped up very small; place the saucepan on a good fire, and stir with a flat

spoon until the mixture becomes sufficiently thick and soft; add a little salt and a large portion of pepper, and serve it up in a hot dish. *Bring out the best wine and let it go round freely, and wonders will be done.*

The following is a cheaper way, and the result is not inferior to the above:—Cut as much cheese as is necessary for your purpose into small pieces; add a lump of butter and a little ale; mix in saucepan on a good fire until all is well amalgamated; add pepper and salt and a little mustard; pour out upon a square of toast on a hot dish. A fine glass of beer will go with this as pleasantly as Brillat-Savarin's wine. Some people add a little beef gravy to the rare-bit when it is simmering in the saucepan, and just a dash of chopped garlic.

No. IX.—Mussels.

September to April is the best time for mussels. They are a cheap and wholesome fish. There is a prejudice against them because tradition has sundry stories of persons dying of a surfeit of them. People have not, however, left off eating lampreys because a king ate too many of them and was killed thereby. Mussels properly cooked and eaten, like all good things in moderation, will make an excellent dish. Before using, place them for several hours in cold water; scatter in the water a tablespoonful of oatmeal; put them into a saucepan without water, and when the shells are well opened the mussels are done; serve hot; eat with vinegar and pepper and bread and butter. You cannot have a much cheaper supper than this, unless you do as some French cooks would—use the juice (the liquor in which they boil) for vegetable soup the next day.

You may make a side dish of mussels thus:—Remove the shells; fry the fish in butter mixed with chopped parsley, pepper and salt; serve with lemon and brown bread and butter.

A small sprig of seaweed adheres to the mussel. Be careful to remove this in all cases. Some authorities regard the weed as poisonous. Mr. Richards, in his "Treatise on Nervous Disorders," mentions the popular opinion of mussels being injurious. He has discovered nothing to warrant it, though he has seen persons suffering from having eaten them. He has known exactly the same symptoms produced by pork, and by lobsters and other shell-fish, and can attribute them to nothing more than a disturbed state of the digestion. The vulgar opinion that mussels are rendered unwholesome by the copper of ships' bottoms is altogether erroneous.

No. X.—Hashed Cold Meat.

A caution to housewives in the first place: never let the hash boil, for the moment it boils the meat becomes hard. However, should the mistake of permitting it to boil occur, the best course is to let it go on until the meat is tender, which will only be when it is in rags. Avoid this, however, by carefully watching that the boiling point is not reached.

And now for the receipt. Take the meat (beef or mutton) from the bone, and cut into slices; trim these by removing the brown portions and the fat; stew the trimmings thoroughly; add dried onions to taste, a carrot cut into lumps, and a little parsley and thyme, a clove and a little catsup. When this is well boiled down skim off the fat, thicken with a little flour; then put in the meat, and let the whole simmer until the meat is well heated. Some people like to thicken with a few sliced potatoes. It is best, however, to add a potato at the last moment; slice a boiled potato into the stew; surround a dish with small pieces of toast; pour the stew out, and serve hot.

Another excellent way to treat cold meat is that which is common in the North. Put a layer of meat in a pie-dish; add pepper and salt; upon this place a layer of potatoes and onions, and repeat alternately, layer upon layer, until the dish is full; add a little stock or gravy, and cook in the oven.

In this matter of hash a good housewife will make valuable use of her stock-pot; she will season according to her own taste and judgment. If mushrooms are in season and reasonably cheap she will not omit them. Eschalots are always a cheap luxury. There are cottage gardeners in Worcestershire who almost live by the cultivation of this esculent for Messrs. Lea and Perrins, who use eschalots largely in their celebrated sauce. I often wonder why the eschalot is not more extensively cultivated in cottage gardens than at present. It gives little or no trouble, and is of far more delicate flavour than the common onion, and is particularly fine when pickled. It was originally brought from Ascalon, in Palestine.

Osiris.

No Potatoes.—The guardians of St. George's, Hanover-square, Union, in consequence of the potato disease, have decided not to accept any tenders to supply potatoes.—*Standard.* Why not try haricot beans?—Ed.

Paris Snails.—The annual produce of the sale of snails for food in Paris has been stated at more than twelve thousand francs.

OYSTERS.

To those who are averse or indifferent to the use of shell-fish, the growing scarcity and consequent high price of oysters will no doubt seem a matter of minor importance. Nevertheless, as a lucrative branch of industry, as a source of honest livelihood for thousands of peasantry, and as a means of utilising the brackish swamps which disfigure the mouths of many of our rivers, oyster cultivation—if we follow the example of the Italians and the French—ought, by and bye, to occupy a prominent position in the catalogue of our food resources. It may be true, as the poet Guy writes—

> "The man had sure a palate cover'd o'er
> With brass or steel, that on the rocky shore
> First broke the oozy oyster's pearly coat,
> And risk'd the living morsel down his throat."

But the wholesomeness and palatability of the delicate mollusk being now altogether beyond dispute, it seems our duty to call attention to some facts connected with the industry in other countries, with a view to the improvement of our over-dredged oyster-banks at home. We need not lift the veil of antiquity any higher than the time of Pliny in order to be assured of the interest taken in the esteemed bi-valve by the ancients. Holland thus translates a passage on the subject by that classic writer:—"The oisters of Cyzicum, taken about the streightes of Callipolis, be fairest of all other, and bigger than those which are fed on bred in the lake Lucrinus, sweeter than those of Britaine, more pleasant in the mouth than the Edulian, quicker in taste than those of Leptis, fuller than the Lucensian, drier than those of Coryphanta, more tender than the Istriary, and, last of all, whiter than the oister of Circy." The epicureans of that remote period having evidently assigned an individual merit to many varieties, it cannot but be instructive to glance for a moment at the present state of the fisheries belonging to their representatives the Italians and French. Among the most noted in Italy are those situated on the salt lake of Tusaro. It appears that the bottom of this sheet of water is muddy and covered with fragments of rock and boulders. Around these stones long stakes are driven, which project above the surface. Lines are stretched from one to the other, carrying bundles of fagots suspended within reach of the spawning oysters, to which the spat adheres and is thus saved from being devoured by foes. But the picture has another side. This lake, occupying as it does, the

crater of an extinct volcano, is apt to be contaminated occasionally by sulpherous exhalations, issuing from cracks in the bottom, which poison all animal life. About forty years ago such an untoward accident occurred, by which the whole of the fish and oysters were killed, so that the lake had to be re-stocked. Yet, notwithstanding this risk, oyster cultivation is sedulously pursued, and is at present a flourishing industry. The lagune at Comacchio, on the Adriatic, is another instance of what may be done by art and perseverance for pisciculture; so is the fishery of the Lucrine lake, the bread-fed oysters from which are alluded to in the above quotation. At the present time, however, the French, of all the European powers, seem to have lavished the greatest amount of skill and capital on oyster cultivation. In 1858 the local authorities at St. Martin established oyster beds which have since been extended to the number of 2000, over five miles of foreshore. Each bed is about thirty yards square and costs about 12*l.* As an illustration of the profitable nature of such outlay it may be mentioned that 500,000 young oysters, laid down on one of these beds, increased in the course of three years to 7,000,000. Even this astonishing result was eclipsed by a bed at St. Brieuc, which, having become exhausted, parent oysters were deposited, and within two years yielded over 17,000,000. There can be but one opinion, therefore, as to the advisability of artificial oyster beds being projected at suitable spots around our coasts, and as to the profit likely to accrue from them when established. But it has also been ascertained that at the end of two years the young oysters should be removed into brackish water having a muddy or marly bottom, with a view to their fattening quickly. It would be at this stage that our vast river swamps might be successfully utilised as "claires." The claire, or fattening ground, differs from the oyster bed in not being submerged each tide, but only at high tides; the mud or marly bottom yielding to the mollusk at once its food in the swarming infusoria found in such localities, and the material for its shell. Extensive as the trade in oysters is in Europe, in America it is truly enormous, even although the native, both in appearance and flavour is inferior to the European variety. Between Virginia and Massachussetts alone, official returns inform us that 50,000,000 bushels are conveyed annually, realising the large sum of $25,000,000. At the present moment the "natives" obtained at Milton, in Kent, about forty miles from London, enjoy the highest repute all over England; whilst the beds at Colchester, Maldon, Faversham, Queenborough, Rochester, and those found in the Swale and Medway are scarcely inferior. Scotland and Ireland

likewise produce oysters of rare quality; in the former the celebrated Pandores of the Musselburgh coast, and in the latter those of Carlingford, on the coast of Louth, enjoy an almost world-wide fame. In former times Billingsgate used to be a scene of disorder and wild license at the opening of the oyster season on the 5th August at midnight; but about the year 1834 the nocturnal market was judiciously suppressed, and the first sales of the season now occur on the fourth of August at noon. It is on and after that day that the pedestrian throughout London and its suburbs is everywhere saluted by youthful mendicants with the words, "Please to remember the grotto;" at the same time a clean oyster shell is presented for the reception of coin, the innocent apology being sometimes added, "It cometh but once a year."

We need scarcely add that, in the interests of our oyster and other fisheries, we hail, as a happy event, the inauguration of the Brighton Aquarium. There can be no doubt that the dearth and prohibitory price of oysters are due, in a great measure, to our selfishness and neglect, the result of ignorance, which this and other kindred institutions will, no doubt, eventually teach us to avoid.

THE *Revue Hebdomadaire du Chimie* gives a description of a new form of "milk-gauge," which appears to deserve notice. It is the invention of M. Marchand, improved by M. Salleron, 24, Rue Pavée aux Marais, Paris. It is based on the supposition that the quality of all milk, whether pure or adulterated, may be determined by ascertaining the proportion of *butter* contained in it. The new milk-gauge, or *lacto-butyromètre*, is a glass tube closed at one end, and divided by lines on the glass into three parts, the lowest marked "milk," the second "ether," and the uppermost "alcohol." It is used as follows:—The milk to be tested is poured into the tube, so as to fill the portion marked "milk." A drop or two of caustic soda is added to prevent coagulation. The second portion of the tube is then filled with sulphuric ether, which has the property of dissolving all the buttery principles in the milk without affecting its other ingredients. The open end of the tube is closed with the finger, and the contents are well shaken. The tube is then filled up with ordinary proof spirit, which precipitates the butter in clots or lumps. The tube is next plunged for a few seconds into water at a temperature of 104 Fahr., and the height of the oily film, which then forms within the tube, read off upon a graduated scale attached to the latter, gives the amount of butter in the milk. The tin-case provided for carrying the tube will serve as a water bath for the purpose. The proportion of fatty matter held in solution by the ether, after the addition of the proof spirit, has been found by M. Marchand to be a constant quantity, *i.e.*, 12 grammes 6 cent. per litre of milk. The zero of the attached scale is therefore marked 12·6 Good milk should give a reading of 30° to 33°, indicating the presence of 30 to 33 grammes of butter to the litre of milk. We may accordingly reject as adulterated, either by the addition of water or the removal of the cream, all milk which does not thus give a reading of 30° in the new milk-gauge.

BREAD.—No. 1.

THE Saxon "breod," or bread, is derived from the verb "brodan," to nourish. Hence this important, if not indispensable, article of human consumption is aptly denominated "the staff of life":—

"Bread, that decaying man with strength supplies."

Singular to say, to no chemist of ancient times are we indebted for the discovery. The alchemists of old wasted their energies and shortened their lives in the vague endeavour to transmute the baser ores into gold, as though the "precious metal" were the "be-all and the end-all" of existence. But bread is incomparably a richer boon to mankind. "Without bread," observes Dr. Cullen, "or somewhat analogous to it, no nation is known to live." It is chiefly to the industry of man we are indebted for this invaluable addition to our *Materia alimentaria*. According to Dr. Darwin, the art of feeding mankind upon so small, and seemingly insignificant, a grain as wheat, was discovered by the Egyptians, who gave it the immortal name of Ceres. To have brought bread to its present condition, has been the assiduous labour of ages.

It would seem, however, as though the Divine author of nature had so constructed the human organism, that life may be sustained, without absolute injury, by every kind of aliment, to any of which the system becomes gradually accommodated. Some ancient nations were accustomed to range over fields and forests in search of food, devouring with avidity, like the lower animals, whatever wild herb they could find:—

"Quæ sol atque imbres dederant quod terra creârat
Sponte suâ, satis id placabat pectora donum." *

The Esquimaux feed voraciously on walrus; the Bramins of India, and the inhabitants of the Canary Islands, Brazils, and other countries, live almost entirely on herbage and roots; the Kamtshadales are often compelled to support life on fish-oil, which they form into a paste with sawdust or the rasped fibres of certain plants. The British aborigines, when first visited by the Romans, knew not so much about the cultivation of the ground as did many of the Indian tribes in America. If the testimony of Cæsar,

* Lucret. *lib.* 5.

Strabo, Diodorus Siculus, and other writers of antiquity be of any weight, our progenitors subsisted chiefly upon flesh and milk. The inhabitants of Lapland are necessitated to improvise a sort of bread out of dried fish, mixed with the powdered bark of the pine tree—a "counterfeit presentment" truly. The Norwegians concoct their bread by the admixture of barley and oatmeal, which they bake between two hollow stones, when the modern mystery of "panification" is completed. This compound seems almost incapable of deterioration; for at the baptism of a child bread is produced which, in all probability, had been baked at the christening of the infant's grandfather. Owing to the failure of the crops in the northern districts of Finland during 1867, when one night's frost plunged the whole country into misery, famine, and despair, introducing "famine typhus," and making fearful ravages amongst the starving thousands, rich and poor, when one tenth of the population fell victims to this epidemic, the bread given to sustain life was composed of pease-straw combined with Iceland moss, and a very small proportion of flour. Even the root of the *Butônus Umbellatus*, without any admixture of flour, had to be resorted to, and with advantage, although this water-plant is scarce. As a last resource, a bread was actually baked and distributed to the famishing people the constituent parts of which consisted of two parts clay and one part flour.*

The natives of Whidah (coast of Guinea) make their bread from Indian corn, which they, in really primitive fashion, grind between two stones, named the *Kankistone* and the *rubber*. The former, on which a small quantity of corn is placed after it has been for some time soaked in water, is smooth and broad; the latter is then employed until the corn is reduced to meal by the twofold process of bruising and friction. The dough thus formed is made into circular lumps, which are either boiled in an earthen vessel, or else baked over the fire on iron or stone. The bread thus rudely manufactured is termed *Kanki*, which, combined with a little palm-oil, forms the chief diet of the people. The numerous wandering tribes of Persia entirely depend for subsistence upon their flocks and herds. These, unfortunately, have succumbed to the late protacted drought, so that the people are perishing by thousands, especially in the southern districts of that empire.

In ancient times various materials were converted into bread, such as potatoes and different kinds of earth; while, during the siege of Paris by Henry IV., the bones of charnel-houses,—shocking

* Mr. Consul Campbell's Report on the Trade of Finland for 1867.

to relate!—were brought into requisition for this purpose. So scarce had bread become at one time in France, that people of the highest quality were wont to carry pieces of it with them when they were invited out to dinner. Even in England, on the authority of a trustworthy writer, bread had to be manufactured "of such grain as the soil yieldeth; nevertheless, the gentility commonly provide themselves sufficiently of wheat for their own tables, while their household and poor neighbours, in some shires, are enforced to content themselves with rye or barley; yea, and in time of dearth, many with bread made either of beans, peas, or oats, or of altogether, or some acorns among."* A peculiar bread called *militaris*, was at one time prepared by soldiers and officers while in camp, with their own hands. For this purpose hand-mills were occasionally employed. The general practice, however, was to pound the corn in a mortar, when the meal would be mixed with water, made into a cake, and afterwards baked on live embers.

According to Stowe, bread derives its name from the place in which it was formerly sold; "for," he observes, "it appeareth by records that in the year 1302, which was the thirtieth of Edward I., the bakers of London were bounden to sell no bread in their shops or houses, but in the market." By a royal mandate, issued by Henry III., in the 36th year of his reign (A.D. 1252), bakers were ordered not to impress bread intended for sale with the sign of the cross, Agnus Dei, or the name of Jesus Christ. By virtue of an Act of Henry III., passed fourteen years after that just referred to, and entitled *Assisa et Panis et Cervisiæ* or "the Assize of Bread and Ale," the prices of these articles were regulated by those of corn. Owing to a provision of the same statute, a baker was fined for transgressing the law, and in case of a heinous offence was ordered to suffer punishment of body in the pillory, or some other severe correction. I may venture to say, *en passant*, that I regard the discarded pillory as a punitive measure worthy of being restored to the nation. It would be admirably adapted for such daring offenders as swindle the public by the double mode of adulterating food and giving light weight. Both the enactments mentioned were successively repealed in the times of Queen Anne and George IV. The first assize of bread was proclaimed in the reign of King John.

S. PHILLIPS DAY.

[TO BE CONTINUED.]

* Holinshed's Chronicle.

APROPOS OF NUTS.

A CURIOUS little work, published many years ago, and entitled "Anecdotes of Cranbourn Chase,"* gives the following account of the nut-harvest in that locality in the middle of the last century:—

"The woods in Cranbourn Chase are about fourteen miles in extent; very unequal in breadth, but on an average about a mile and a half wide. The woods chiefly consist of hazels, which produce nuts in great profusion, to the relief and benefit of all the hamlets and villages for miles around. It is their second harvest; for when the corn hath been got in, and the *leasing* of the fields is at an end, the inhabitants betake themselves to the woods; whole families from distant villages flock to the Chase, bring their little cots, provisions, utensils, and every necessary for their comfort that they can provide themselves with, and make their abode there for whole weeks at a time, if the weather will permit. Fuel they have at hand in great plenty, and after the fatigues of the day, they make large fires which they sit round, eat their scanty meals, then slip from the green shells their day's gathering, talk over their success, crack their jokes as well as their nuts, and, clothed in innocence and simplicity, are much happier than most of the Princes of Europe. . . . . The neighbouring towns, the sea-ports particularly, are a sure and ready market for their wares, and the price is generally on a par with wheat, the same kind of weather being most favourable for the growth and increase of both."

This description applies to 1750 *circa*. To what extent the picture of rustic innocence and simplicity may have been coloured by the author's imagination, the reader must decide. The next paragraph suggests the origin of the name "Mousehole" or "Mousehold," so common an appellation for lanes, homesteads, and the like, in the south-western counties; and is quaint enough in its way:—

"When the winter hath brought all the nuts from the bushes and trees, some experienced persons still continue to get a store of the very best in a most cruel manner, by robbing the hoards of the industrious mice; and these nuts bear a better price than others, because the mice by a natural instinct select the best, and no faulty ones are ever found among them. These are called "Mousehole Nuts," which are dug out of the poor animals storehouses; but it requires some experience and sagacity in finding out the right holes in which the stores are kept; on this account the practice is now, I believe, nearly extinct, and I hope it is caused by the better feelings of the present race, and the abhorence of all kinds of robbery, even those of innocent mice, but I greatly fear it is not so."

* "Anecdotes of Cranbourn Chase," by Rev. W. Chafin, M.A. 2nd Edition. 1818.

MALTING, BREWING, AND BOTTLING.

THE visitor to the "Edinburgh" Malting, Brewing, and Bottling Establishment of Mr. Michell, at Stoke Newington, may find much that is of interest in the various processes in operation there connected with the preparation of beer, from the conversion of the grain into malt to the actual bottling of the liquor. Commencing at the barley room, into which the grain is hoisted by machinery from waggons in the road, may be observed a large iron cistern into which the grain runs from a screen, by means of which the dust and thin corns are removed. In this cistern the barley remains submerged for fifty hours, during which time it is surveyed two or three times by the excise officer. At the expiration of that time it is turned out of the cistern into the couch frame, where it is gauged for the purpose of determining the amount of duty to be paid upon it. If the officer considers that unfair means have been used to compress the grain, he may insist upon its being thrown back into the cistern, and if, after the refilling of the couch, an increase appears to the extent of six per cent., a penalty of 200*l.* is incurred by the maltster. Following the process just described is the spreading of the grain over the working floors, where it is continually turned and stirred for ten or twelve days, according to the temperature of the atmosphere, after which it is thrown on to a kiln, where it remains for three or four days longer. The kiln is heated to a greater or less degree, according to the quality of the malt required. Four different kinds of malt are used in the Edinburgh Brewery, viz., white, pale, amber, and black, the first being for pale ale, while the three latter are for strong ales, porter, and stout, being mixed together in such proportions as appear best suited to the tastes of the customers. The delicate pale ale and the heavier stout are both produced from like materials, the only difference being in the manipulation.

After the malt has been dried to the shade required, it is thrown into the bins, above the screening room. In this room is a long screen down which the malt runs, the sprouts formed in the previous process being thus separated from it. The malt is next measured into sacks and carried to the brewery, where it is crushed between smooth iron rollers, driven at great speed. It then passes from

the rollers into closed bins immediately beneath, so that none of the flour of the malt may be lost, and beneath these again is fixed the mashing machine, by which the malt and water, heated to the proper temperature, are thoroughly mixed as they pass into the mash tun below. The process of mashing is now complete.

After a certain time the wort is drawn off from the mash tun through a perforated false bottom into what is called the under-back from which it is lifted by steam pumps into the steam boiling back, where the hops are introduced, and the boiling operation commenced. The wort is now turned into the coolers and afterwards passed over a Bandelot's refrigerator by which means its temperature is reduced from 150° to about 60°. It is then introduced into the fermenting square, the yeast is added, and the conversion of saccharine into alcohol commences. The final stage in the manufacturing process is that which follows in the cleansing butts, puncheons, etc., which are kept filled with beer, so that the yeast may be thrown out and the beer thoroughly cleansed before proceeding to casking and bottling. The bottles after being filled and corked are conveyed to an arched cellar kept at a temperature of 54°, where they are stacked to allow the beer to ripen.

The visitor to the Brewery may next repair to the cellars, containing wines of the brand of Mackenzie and Co., and forming an important adjunct to an establishment which comprises in itself all that appears necessary to the successful carrying on of an extensive brewing and bottling business.

THE following is from a pamphlet by Simon Mason, MDCCXLV., on the effects of tea:—"I, like many more, take it every morning and sometimes in an afternoon, partly to be fashionable, and not particular, and out of complaisance. though I think that Sage is better on every account, and could wish the use of Tea was as little known at this day as it was a few years ago to a Country Dame, who told me that she had a sister who lived in London, to whom she a short time before sent a fat goose as a present. This same sister, in return, sent her Country sister a present of half a pound of Tea, I cannot say whether Green or Bohea, that matters not. My Dame was quite a stranger to the use of this new fashion'd genteel herb, but thought it, like most other herbs, good Eating with Bacon, and accordingly tied it up in a cloth and boiled it. She boiled it above 2 hours, till she had almost spoiled her bacon, then took it up, and, as a great Rarity, melted some Butter and Vinegar to it. My Dame, with her good man and the rest of her household, sat down to Dinner; upon chewing this Sallad they found it very tough. My Gaffer blamed her for not boiling it longer; my Dame began to be in a passion, and said her Sister should have sent her word how to dress it; For sure Sue had learnt to eat strange sort of Food since she went to live at London; but she, like other Fools, must take after Gentry, who out of wantonness would eat what would choak us Country Folk."

MADAME DE MAINTENON ON HOUSEKEEPING.

In the memoirs of Madame de Maintenon is a letter written by that famous woman to her sister-in-law, Madame d'Aubigné, the purport of which is as follows:—

"You know well, my dear sister, that I am better acquainted with Paris than you are; and I send you an estimate of expenses, such as I would act upon, if I were away from the court. You are twelve persons in all, Monsieur and Madame, three female servants, four laquais, two coachmen, and a valet:—

15 lbs. of meat, at 5 sous	3	*liv.*	15 *sous.*
Two Roast joints, poultry, etc.	2	,,	10 ,,
Bread	1	,,	10 ,,
Wine	2	,,	10 ,,
Wood	2	,,	0 ,,
Fruit	1	,,	10 ,,
Wax candles	0	,,	10 ,,
Candles	0	,,	8 ,,
12*s.* 2*d.* =	11	,,	73 ,,

I calculate four sous for wine for your four laquais and two coachmen; which is what Madame de Montespan gives hers, but if you have wine in your own cellars it will not cost you three sous. I set down six for your valet (an important confidential man in a French establishment), and twenty sous for you and Monsieur, who do not drink enough for three! I set down a pound of candles per day, although half-a-pound is really enough. I say 10 sous for wax candles; there are six to the pound, which costs 1*s.* 3*d.*, and lasts three days. I set down two livres for the wood, though you only burn it three months in the year, and you want but two fires. I put down 1*s.* 3*d.* for fruit; sugar costs only 5½*d.* per lb., and it only requires a quarter for a *compote*. I have spoken of two roast joints or dishes, but one will be spared when Monsieur or Madame dines or sups out, and, on the other hand, I had forgotten a boiled pullet for the soup. You may easily, without exceeding 12*s.*, have an *entrée* of sausages, sheeps tongues, *frai es de veau*, the homely leg of mutton, the eternal pyramid, and the *compote* of which you are so fond.

"The above being understood, and seeing what I have learned at court, my dear child, your expenses ought not to exceed 100 livres (4*l.*) per week, 400 a month, or to cover any trifles I may have forgotten, say 500."

The lady then sums up:—

"Table, or (as she puts it) mouth expenses	6,000	*livres.*
Your clothes	1,000	,,
Rent of the house	1,000	,,
Wages and liveries	1,000	,,
The Opera, and the clothing and magnificence (charity, etc.) of Monsieur	3,000	,,
Per annum .. .. 480*l.* =	12,000	,,

In conclusion, says the future queen of Versailles:—

"Is that not respectable, and will not the rest of your income cover such extra expenses as cannot be forestalled, such as a few grand dinners, the keeping your two carriages in repair, the payment of any little debts, etc. Adieu, my child, love me as I love you."

It is curious to find Madame de Maintenon, as it were, weighing out candles and sugar, and pricing out all the little items of the *ménage*; its lets us a little into the secret of her success, she was a capital manager!

If we consider that money is now worth four or five times what it was in the time of Louis XIV., we shall see that meat was really about as dear as it is at present, while sugar then cost about 2*s.* per lb., in our money, and candles were proportionately dear. Looking at the total cost per annum, and taking it at the above rates, as equal to about 2,000*l.* a year, it is startling; he who would attempt to keep a house, two carriages, and ten servants in Paris for anything like that sum now-a-days, must be sanguine indeed.

The salient point in the above account is the large amount of state as compared with the simplicity of the ordinary habits. Imagine a lady and gentleman spending 2,000*l.* a year, and only burning two wax candles a day. The amount of meat set down in the account is large—20 to 25 lbs. for twelve persons, while the fruit is absolutely ludicrous, and no vegetables are named at all. The cost of vegetables and fruit in a good Parisian house would startle Madame de Maintenon could she see a few housekeepers' books of the present day. The small quantity of firewood shows that the French of those days, as the Italians even at present, liked as little artificial heat as possible.

CHINESE MEDICINES.—The *San Francisco Bulletin* says:—The ingredients of a witch's cauldron as described by the poet could not have been more repulsively disgusting than are the articles and compounds shipped to the Chinese physicians of this city from their native country and used as medicines here. There seems to be just at the present time an extra demand for a venomous serpent closely resembling the rattlesnake, of which hundreds are received constantly. A Custom-house official brought a specimen of these cheerful-looking creatures to this office,—a coiled snake of about four feet long, fanged, and with hideous head-scales like a crest. How these animals are taken by patients of Chinese doctors is not known. One would be a fair dose if disguised in a coating of sugar. They may be taken in sections three times a day, as they are desiccated, or they may be boiled down or pulverised, and taken in powders or rolled into pills. Lizards are in nearly as great demand as the snakes. These also are dried and sent over in packages, together with hundreds of other loathsome things, all of which are consigned to the Chinese physicians and used by them in their practice.

MARKETS OF THE MONTH.

THE firm tone of the wheat market at the commencement of the month furnished a pretence for millers to raise the price of flour, the consequence of which was a rise in the price of bread of from ½*d.* to a ½*d.* per quartern loaf of 4 lbs. Strange to say, inactivity and dullness are now the characteristics of the wheat market, and country reports even go so far as to state that lower prices have been accepted; therefore it appears rather incongruous that the millers have raised the price of flour. The meat market presents no features worthy of especial notice this month; the outbreak of the cattle plague is not apparently sufficiently alarming to raise prices, which indeed have latterly been lower. Perhaps a reason for this may be found in the fact that fodder this year is plentiful and cheap, prime hay realising from 60*s.* to 80*s.*; clover, from 80*s.* to 110*s.* per ton; and straw, from 30*s.* to 36*s.* per load.

The increased value of labour has caused a rise in the price of salt of 6*d.* per cwt. Coals are gradually becoming cheaper; a decided reduction has already taken place, the high price having been prohibitory to the export trade, a circumstance which may, perhaps, be deemed advantageous in that it tends to reserve our stock entirely for home consumption.

Accounts from Wales have been received stating that the potato crop is large, and generally free from disease, but there can be no doubt that almost every other part of the country has suffered to an unusual extent. At the same time the effect of the disease upon our supply has not been so disastrous as was at first anticipated, no less in consequence of large importations of foreign potatoes, than because its ravages were not so serious as had been reported. Nevertheless we have, perhaps, not experienced so severe an attack of the disease for more than 20 years. First-class potatoes are fetching readily from 10*l.* to 12*l.* per ton. Belgian kidneys are making 7*l.* per ton, other kinds not more than from 5*l.* to 6*l.* per ton. The influx of these foreign potatoes has materially influenced the prices obtained for home-grown samples, and to a certain extent has neutralised the effect on the market which our limited supply was calculated to cause. Good first-class bacon is dear, although pork is but slightly higher than it was; the former is worth from 90*s.* to 112*s.* per cwt. Fresh butter is getting scarce and dear,

best quality making from 1*s.* 7*d.* to 1*s.* 10*d.* per lb.; good Normandy, salted, 120*s.* per cwt.; Friesland, Kamper, Kiel, Danish, and Jersey are making from 120*s.* to 130*s.*; Ostend from 1*s.* 4*d.* to 1*s.* 5*d.* per lb. Eggs are now worth from 12*s.* to 15*s.* per hundred. The fish market does not present any special features worthy of notice except that oysters are slightly dearer than they were last year. Red mullet are now plentiful and cheap; soles lately have been scarce and dear. Soles, haddocks, whitings, turbots, mullets, skates, brill, plaice, hake, flounders, cod, codlings, herrings, smelts, eels, oysters, lobsters, and occasionally mackerel are now to be obtained at Billingsgate. The herring boats on the east coast have not had such a good season as they had last year. Prices have, therefore, ruled high; last year prices were from 7*l.* to 10*l.*, this year they are from 25*l.* to 47*l.* per last. Leadenhall Market now presents a varied choice of delicacies. Capons, from 5*s.* 6*d.* to 7*s.* 6*d.*; fowls, from 2*s.* 3*d.* to 3*s.* 6*d.*, small, 1*s.* 9*d.* to 2*s.*; turkeys, small (the large being reserved for Christmas time), from 5*s.* 6*d.* to 10*s.* 6*d.*; geese, from 7*s.* 6*d.* to 10*s.*; ducks, 2*s.* 6*d.* to 3*s.* 6*d.*, wild ducks, 2*s.* 3*d.*; widgeon, 1*s.* 9*d.*; teal, 1*s.* 9*d.*; black game, 3*s.* to 3*s.* 6*d.*; grouse, 2*s.* to 2*s.* 6*d.*; pheasants, 4*s.* to 4*s.* 9*d.*; partridges, old, 1*s.* 4*d.* to 1*s.* 6*d.*, young, 2*s.* to 2*s.* 3*d.* A few woodcocks have come to market, and have realised from 4*s.* 6*d.* to 5*s.* 6*d.* each; snipes, 1*s.* 3*d.*; green plovers, 10*d.*; golden plovers, 1*s.* to 1*s.* 3*d.*; redshanks, 9*d.*; hares, 4*s.* to 4*s.* 6*d.*; pigeons, 8*d.* to 10*d.* Malaga lemons are making from 33*s.* to 40*s.*; chestnuts, just arrived, 4*s.*; Barcelona nuts, per bushel, 18*s.*; Spanish, 16*s.*; Brazils, 24*s.*; almonds, Faro, 20*s.*, Jordan, from 10*l.* to 14*l.* per cwt.; cocoa nuts, from 28*s.* to 32*s.* per 100; Lapucai nuts, 120*s.* per cwt.; German walnuts, 20*s.* per bushel. This is the season for fresh truffles, of which a limited quantity may be purchased in Covent Garden, at about 3*s.* 6*d.* per lb. Tomatoes have been very plentiful this year, and cheap. Cauliflowers are making from 2*s.* 6*d.* to 5*s.* per dozen. English hothouse pines are worth from 7*s.* to 9*s.* per lb.; grapes, 2*s.* to 4*s.* 6*d.* per lb.; Almeria grapes, 26*s.* to 34*s.* per cask; Dutch and Hambro grapes, 10½*d.* per lb.; Oporto onions, from 11*s.* 6*d.* to 13*s.* 6*d.*; forced melons, 6*s.* to 7*s.* each; cooking apples, 9*s.* per molly; dessert apples, 13*s.* to 14*s.*; France sends us prime plums at 10*s.* to 12*s.* per pad; Stewing pears, 8*s.* to 9*s.* per case; dessert pears, 8*s.* to 14*s.* per case. Capsicums are worth 1*s.* 9*d.* per 100; chilies, 1*s.* 9*d.* to 2*s.*; Pomegranates, 12*s.* per 100; Normandy pippins, 95*s.*; Muscatel raisins, from 95*s.* to 135*s.*; Eleme figs, 60*s.* to 80*s.*; Faro, 25*s.* per cwt.

P. L. H.

AUSTRALIAN MEAT AT THE CENTRAL LONDON DISTRICT SCHOOL.

THE Managers of the Central London District School having decided that Australian preserved meats should be introduced for a time into the schools, the superintendent recently reported as follows, and the Board then resolved that the trial should be extended for a further term of four months :—

Central London District School,
Hanwell, Middlesex, W.

GENTLEMEN,—In accordance with your request I have tried the Australian meat twice a week for two months, and the children seem to like it. As to its effect on their health, it would require a much longer period to enable me to form an opinion, but in a monetary sense, if used twice a week as hitherto, a saving of about 6*l.* per week would be effected, and I think probably the children would not become tired of it.

I consider that the limited trial we have made, has been sufficiently satisfactory to justify a continuance of it for a more extended period.

I have bought mutton at 5*d.* per lb., and beef at 5½*d.* per lb. At foot I give the relative cost of dinners made from the *preserved meat* and *uncooked meat* respectively.

I am, Gentlemen,
Your obedient servant,
(Signed) G. W. HILLYARD,
Superintendent.

September 20th, 1872.

RELATIVE COST OF DINNERS—ENGLISH AND PRESERVED MEAT.

Sept. 10th, 1872—1,124 Children in House.
English Meat :

	£	s.	d.
16 stones Beef at 8*s.* 8*d.*	6	18	8
9 ,, Mutton at 8*s.* 8*d.*	3	18	0
5 cwt. Potatoes at 7*s.*	1	15	0
Pepper, salt, etc.	0	1	4
	£12	13	0
Tare: Fat, 40 lbs. at 5½*d.*	0	17	6
	£11	15	6

July 23rd, 1872—1,126 Children in House.
Preserved Meat :
40 Tins, gross, 280 lbs.
Tare: Dripping, 23 } 71 ,,
40 Tins, 48 }

	£	s.	d.
Net weight of meat, 209 lbs. at 5½*d.*	4	11	5½
4 cwt. Potatoes at 7*s.*	1	8	0
58 lbs. Pearl Barley	0	9	0
58 lbs. Rice	0	8	6
Onions	0	5	0
Seasoning	0	1	6½
	£7	3	6

In favour of *Preserved Meat* £4 12 0

NOTES OF THE MONTH.

INSTANCES are being multiplied of the universal neglect of wholesome food supplies. In a recent number attention was drawn to this fact, and it need only be pointed out that nature having endowed every country with a lavish hand, man's industry is often alone required to develop these resources. The British Consul at Pernambuco reports that the animal and vegetable productions of the province are in a very low condition, not much attention being given to anything but the cultivation of the two staple articles of exportation—sugar and cotton. The country is capable of producing with facility and extraordinary abundance, but such is the indolence and indifference to an improved mode of existence generally prevailing, that there is very little hope of any progress in this direction. Rice, Indian corn, potatoes, onions, and nearly every kind of vegetable will grow luxuriantly. Innumerable varieties of durable and useful kinds of timber exist, but there are no labourers and no roads by which to bring it to market. Cattle, sheep, and pigs might abound, there being immense regions of prairie land, but the last two particularly are neglected and very scarce and expensive. The seas and inlets teem with good, wholesome, and valuable fish. Yet all these things have not only to be supplemented, but in a great measure supplied from abroad. The food of the mass of the population consists, it may be said, without variety, of salt fish, jerked beef, and farinha, the produce of the poisonous mandiocca. *(Manihot utilissima).*

The more general consumption of fish is a question well worthy of consideration; indeed it cannot be too well ventilated, especially at a time when every other produce is commanding such high prices. It is a truism that there are as good fish in the sea as was ever brought out of it, and though the supplies may fluctuate, they are nevertheless boundless. Here is another instance, which comes to us from Iceland, of the neglect of this kind of food. We read:—

"The stocks of domestic animals have shown a steady tendency to decrease, especially as regards the sheep flocks, which at times have been cruelly decimated by scab epidemics; the occasional failure of the grass crops exercises also a destructive influence on their herds and flocks generally, as they have no means at hand of substituting other fodder for the excellent wild pastures with which in ordinary years nature supplies them so bountifully. These occasional epidemics and grass failures are bewailed by the Icelander as national calamities, but it is a question whether they may not prove to be the reverse, by opening his eyes to the

necessity of devoting his energies and small capital to the better and more regular prosecution of the fisheries, which are boundless in extent, and less dependent on vicissitudes and seasons."

Although the cod (*Gadus morrhua*) is the only minor fish which figures in the returns as a chief article of export, the waters around the island abound in fish, amongst which are the herring, haddock, halibut and similar flounder kinds; trout, salmon, and eels are likewise plentiful in the fjords and fresh-water lakes and rivers. Shell fish are present in enormous quantities, especially the mussel (*Mytilus edulis*), which is so abundant that its shell might supply the whole island with lime; at present they are only used as bait. Salmon is chiefly found in the rivers near Reykjavik and at the north of the island, and is taken by the natives in nets and traps. It was exported as early as 1624, but only in small and irregular quantities until 1855, when a Scotch speculator made his appearance in the island and bought up all he could procure, paying the natives 3*d.* per lb.; the fish has since figured in the returns as a regular article of export, having reached 22,000 lbs. in 1858. In 1868, however, only 4,000 lbs. were shipped, the decrease arising probably from the destructive manner of taking the fish. From Iceland records it appears that large quantities of dried cod were sent out of the island so early as 1292. In the 15th century numerous shipments were made to England, but at the present time fully half the dry cod prepared in the island is shipped to Spain, the remainder being sent to Denmark, Great Britain, and Hamburg.

So much has been written and said of late on the adulteration of butter, and the fact has been so forcibly argued that owing to the large consumption, not only in our own country but also in France, it is impossible to obtain sufficient genuine butter to supply the demand, that it may be some consolation to consumers to know that from Denmark the shipments are steadily on the increase. This, however, might be due to some novel utilisation of foreign substances, but we are assured by the British Consul at Copenhagen that, owing to the good price which "Danish butter commands, both in the English and Scotch markets, especially in the latter,—for the Leith markets are already greatly dependent on the supplies from Denmark,—a strong disposition is at present apparent among the Danish farmers to decrease their cereal production, and devote their capital and energies to developing their dairy produce and the rearing of cattle, which branches promise a more lucrative return, as the experience of the last twelve years shows that the increase in

the price of corn has not kept pace with that of butter, meat, and live-stock." Danish butter finds its way also in large quantities to Newcastle, Liverpool, Manchester, and the Midland markets, and in the winter time large quantities come on to London; indeed, Consul Crowe states that "there is comparatively no limit to the quantity the British markets can consume. Prices have steadily risen for some years, and as the means of communication improve yearly, the butter and meat production of this country is likely to become the chief one." The total export of butter from Denmark has averaged for the last six years about 40,000 barrels, of which Great Britain took two thirds; but in 1870 it rose to 56,000, and in 1871 to 68,000 barrels; prices were at the same time unusually high, and the exporters' cash returns for the last year are estimated at about 5,000,000 dollars, or 555,555*l.*

It is to be remarked that whereas, under all the other leading clauses of the new Licensing Act, convictions have taken place in plentiful numbers, giving evidence that the new law is by no means a dead letter, or to be broken with impunity, yet with regard to the clause which deals with adulteration no single penalty has hitherto been incurred, or, at least, been inflicted. How is this? It must arise from one of two causes: either there has been a sudden and wonderful and universal alteration for the better in respect to the pernicious habit of adulterating intoxicative liquors on the part of the inferior publicans and beer and dram-shop keepers,—which is a consummation most devoutly to be hoped for, but which is almost too good news to be true,—or else there has not been so much vigilance exercised with regard to this most important section of the act as has been manifested in other respects, which, should it be the case, is much to be lamented. Information on the matter from those in a position to impart it would be very acceptable, and it is to be hoped that the public will not, in the satisfaction they may derive from the improvement brought about by earlier closing and the diminution of drunkenness, lose sight of the adulterators and their poisonous compounds.

Our continual exposures connected with food adulteration seem at length to have stimulated critical inquiries in other parts of the Kingdom, resulting in revelations similar to those recorded from time to time in these pages. At Bolton a milk vendor has been fined for selling milk containing only two per cent of cream; and a grocer for neglecting to inform the public that his coffee was

mixed with chicory. In Liverpool, milk, bread, and rusks have passed through the laboratory of Dr. Brown (lately appointed analyst to that city), who has accomplished the condemnation and destruction of a large quantity of the latter. When we recollect that rusks are chiefly used as food for our interesting cherubs at an early stage of their career, we are actuated to revile, and would promptly punish the adulterators of this form of bread with peculiar relentlessness. Grown up people may growlingly submit to be slowly poisoned by their tradesman, but where is the British parent who can calmly witness the administration of sophisticated food to an innocent and helpless infant? We observe, too, that the *Glasgow Daily Mail* is actively following up the investigations regarding tea adulteration, which we initiated in November, 1870.

In our September number we directed attention to the case of a woman, a milk dealer of Dublin, who was convicted of having sold milk adulterated with 75 per cent. of water, and fined 5*l.* with 3*l.* costs, besides being compelled to publicly advertise a record of the conviction at her own expense. The authorities of that city would appear to have entertained but faint hope that even the severe penalty then inflicted would have the effect of proving a terror to evil-doers, for they have since been doubly assiduous in their endeavours to detect fraud, and their efforts have been crowned with a large measure of success. Notably was this the case in which Mary Reynolds, a dealer in milk, was the delinquent. She carried on business in Golden Lane, and on October 10, she was called on to answer a charge of having sold adulterated milk. The evidence showed conclusively that she had adulterated the article with 80 per cent. of water, and as she had been previously convicted for a similar offence, she was fined 10*l.* including costs. There can be no doubt that the prompt and energetic action taken in Dublin will deal a severe blow at the wholesale traffic in adulterated food which has so long been systematically and unblushingly carried on in that capital; but if the case of Mary Reynolds may be accepted as a representative one, the present system of punishment would appear inadequate. She had been before convicted, so that the payment of a pecuniary penalty had no wholesome effect. A dealer carrying on a good stroke of business, selling 80 per cent. of water at the price obtained for milk, can surely meet a few 10*l.* penalties without the balance at the year's end being appreciably affected. In the retail coal trade—a trade from which the poor suffer much, as they have no facilities for re-weighing the article—

a salutary effect has been produced in some towns by the application of the provisions of a statute which render short weight in coal a fraud punishable by imprisonment with hard labour. We cannot but incline to the opinion that, if the class of whom Mary Reynolds is no mean type, had the fear of a restriction of personal liberty before their eyes, the days of adulterated milk would be numbered.

In the spring of the present year, Professor Hodges, the eminent anyalytical chemist, of Belfast, brought under the notice of the Chemico-Agricultural Society of Ulster, the question of whisky adulteration, instancing one sample that had been submitted to him which he found largely composed of naphtha. This *exposé* aroused the ire of the distillers and spirit dealers, and accordingly, at the recent meeting in October of the same society, Professor Hodges explained that he had no intention of charging Messrs. Dunville and other exporters, or the respectable publicans of Belfast, with preparing naphtharised whisky for their customers, as every dealer of the class was interested in a stop being put to such practices. At the same time, the sample he had exhibited to the previous meeting was so bad that it was not difficult to show that it contained a large amount of naphtha, and he had good reasons for believing that this deleterious addition to whisky was not unusual in some low-class public-houses. He added that the intoxication of naphtha must be something dreadful, as one of the men who brought the sample in question to him was suffering fearfully from having partaken of it. The adulteration took place after it left the wholesale dealers. Referring to another phase of the subject, Professor Hodges said that in the county of Derry they were in the habit of making ether punch. Dr. Knox (ex-medical inspector of the province of Ulster) also remarked that the amount of ether consumed in Draperstown, in that county, was extraordinary; it had superseded opium in that locality, and it was a cheaper and more ready medium of intoxication than whisky. He was told by a respectable druggist that it was as general to ask for half-a-glass of ether as half-a-glass of whisky. In reply to the Rev. Joseph Bradshaw, J.P., Dr. Knox said that ether acted very rapidly upon the system, and it required four or five doses in the day to keep up the intoxication.

Public attention has been directed to an article on "turtle," which appeared in our issues of August and September, by the criticisms, adverse and otherwise, of the daily press. Letters from

private individuals have also been printed, impugning the veracity of the author; but from their tenor it is evident that the writers have either not read the essay for themselves, or have promulgated a merely local or trade experience; whereas, our contributor has grasped and treated the subject as a whole. That a proposal to interfere with, and cheapen, an article of food which has hitherto been, to a great extent, the monopoly of the wealthy, should excite hostility, provoke discussion, and elicit criticism is only what might have been anticipated. Yet, if it result in a future copious supply of this invaluable viand, we, and the author of the essay, will feel satisfied that our advocacy has not been in vain.*

It is with regret we observe that a blight has attacked the tea plants in Assam, in consequence of which the anticipated crop this year may be diminished to the extent of 15 per cent. Considering the many severe checks this industry has encountered since its commencement in 1824, it is a pity such a disaster as a blight should now be added to the planters' catalogue of griefs. But we trust the first surmises are exaggerated, and that when the accounts come to be audited at the end of the season, a more encouraging result may appear. In Ceylon, we observe that the prospects of tea cultivation are at length assuming a tangible form. A Mr. Taylor, of Loola Condera, has produced tea of such superior quality that it was pronounced worth 3*s.* per lb. on the spot. Partly in consequence of this success, the Ceylon Company are about to plant 100 acres with tea bushes. We need scarcely say we wish them prosperity in their enterprise.

Important Appointment under the New Adulteration Act.—The announcement that the Vestry of Lambeth has bestirred itself to put in force the new Act against food adulteration, for the benefit and protection of the thousands of poor persons which it has under its charge, will be favourably received. The *South London Press*, in referring to the appointment, shows how the enforcement of the Act will mutually benefit both the honest trader and the consumer. That the gentleman selected is Dr. John Muter, of the South London School of Chemistry and Pharmacy, whose name is so well known to our readers as the author of the series of articles on "Popular Food Analysis," which received so much notice during the earlier numbers of the *Food Journal*, cannot but be regarded with satisfaction, its analyst and oldest contributor thus being the first chemist selected in the metropolis to be entrusted with the carrying out of the Act in one of its most populous and extensive districts.

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* See Correspondence, following page.

CORRESPONDENCE.

TURTLE.

To the Editor of the "Food Journal."

SIR,—In the *Daily News* of the 12th September, public attention was drawn to an article on "Turtle," which appeared in the *Food Journal* for August and September. Two days afterwards the *Daily News* inserted a letter signed, "Eleven Years a Boiler Maker in South America," impugning some of the statements made in the essay regarding that valuable and highly esteemed reptile, to which the author promptly replied; his rejoinder, however, the editor has not as yet allowed to appear.

This correspondent of the *Daily News* says he lived within a stone's throw of the Amazon for four and a-half years; that at times turtle were scarce, and always very dear. I can quite appreciate this remark. The testudo family are, with one or two exceptions, extremely timid, and the females are scarcely likely to frequent a locality resonant with the clang of boiler making. But the essay, which probably the "Boiler Maker" and some newspaper paragraphists may ere this have calmly read, will shew that it is the affluents of the Amazon which are alluded to; not the banks of the mighty river at all, where "during particular seasons, at dark, turtles resort in thousands to lay their eggs on the sands."

That the "Boiler Maker's" experience, as regards turtle, has evidently been of the most limited description is evinced by his doubting that some turtles weigh 700 lbs. He may gratify his thirst for further information any day by a visit to one of the West India steamers on its arrival here, or to the turtle tanks in Leadenhall Street, where he will occasionally behold reptiles which it would task any two stout English draymen to "pick up and walk away with."

The opinions of some persons engaged in the trade have also been publicly volunteered on this subject; but their remarks might possibly carry more weight if they displayed less bias, and were authenticated by addresses and names. It is mere folly for any one to say or write that edible "turtle is confined to the Carribean Sea, and to the vicinity of Greytown."

There are few articles of human food more widely distributed than this. We find wholesome and palatable turtle in North and South America, in Asia, and in Africa. It is true that the Amazonian region and West Indies are at present the sources of supply best known, but every eastern traveller can bear witness that the Indian and Chinese rivers teem with edible turtle.

That such "an audacious proposal" and "pleasing suggestion" (as the contents of my essay have been termed by one or other of the daily press) should have provoked discussion and elicited criticism, is only what was anticipated and provided for. But the question of the day remains unanswered. With the streams of three continents to choose from, what can we accomplish in the way of providing a copious, cheap and constant supply of a food acknowledged to afford the most concentrated and nourishing diet of any.

I remain, Sir, yours respectfully,

335, Kennington Road, WILLIAM COCHRAN.
8th October, 1872.

THE FOOD ADULTERATION ACT.—As a mode of partially meeting the difficulties experienced by retailers in dealing with mixed articles in grocery, etc., a correspondent suggests that the requirements of the Act can be met by the use of a small stamp similar to those employed at the Post Office, and bearing the words "Sold as a mixed article."

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

TO MAKE FRENCH PUDDING.

Take 2 lbs. of flour, and ½ lb. of lard, make it into a paste by rubbing the lard well into the flour and adding a little cold water to mix it; roll out the paste, and line a dish or a plate with it, and then fill the plate with treacle; roll out some paste and cover the top, and bake it for half-an-hour if the oven be hot. Or the paste may be rolled out on the pasteboard, filled with treacle, rolled up the same as for a preserve pudding, tied up in a cloth, and boiled for one hour.

TO MAKE PASTIES.

Make a paste of flour and lard, or suet if preferred, with sufficient cold water to mix it; take some meat,—beef, or mutton, or pork,—cut it in small pieces; roll out the paste, and put the meat into it; add pepper and salt sufficient to season it, and onions cut up small; if liked, peel some potatoes, cut them in slices, and put them in with the meat; make the paste into the shape of a turnover or pasty, and bake for one hour.

TO MAKE LEMON PUDDING.

Make a paste of flour, lard, or butter, and mix it with a little cold water; line a soup plate with it; take two eggs, beat them up well; squeeze the juice and the inside out of two lemons; grate a little of the peel; add enough sugar to the lemons and eggs to sweeten them; mix all well together; pour it into the plate; put a little piece of butter as well; cover the top with paste, and bake it half-an-hour if the oven be hot; or it may be baked without being covered with paste.

TO COOK TOMATOES.

Take three or four tomatoes; put them in a pie dish; crumble some bread and put on the top; add enough pepper and salt to season them; put a little butter, and bake for about half-an-hour. They are very nice cooked in this way, and are eaten with baked or roasted beef or mutton with other vegetables.

MY GRANDMOTHER'S RECIPES *(continued).*

TO MAKE GINGERBREAD.

Two pounds of flour, the peel of two lemons cut small, 2 lbs. of treacle, 3 ozs. of ginger, a few carraway seeds, ½ lb. of butter, ½ lb. of sugar. Make up in little buttons or cakes and bake in a gentle oven.

TO PICKLE GHIRKINS.

Gather the ghirkins quite dry, wipe them with a cloth, put them into a pot, and pour boiling vinegar enough to cover them. Set them by the fire nine or ten days covered close, boiling the vinegar every other day, and on the last time of boiling put in some whole pepper, mace and ginger.

THE

FOOD JOURNAL.

THE LICENSING ACT AND THE GIN SHOPS.

OPINION is divided in relation to the general effects of the new Licensing Act,—not an extraordinary fact, certainly,—and its action, in London at least, is not very remarkable. A few people may be sent home to bed a little earlier than usual, and some very hard working men, such as printers, actors, and others occupied in the evening, may be sent home thirsty and supperless; these are almost the only effects yet apparent. What the power now reposed in the hands of the magistracy may eventually produce in the way of closing ill-conducted houses, and suppressing or adding others, we have yet to see; but, in our view, the new law is essentially a bit of raw legislation utterly missing the one great disgrace of all our large towns, against which it should have been specially directed.

Drunkenness has ceased to be a characteristic of the English people proper; gentlemen, even lords, do not get intoxicated at the present day, nor is the drinking amongst the various sections of the middle classes at all excessive, at least in London; and we venture to add that scenes of actual drunkenness, or even of heavy drinking, are not common in the ordinary public-house, or, to put the case more directly, in the tap-room. The English artisan and respectable labourer have been, we affirm, cruelly libelled by philanthropists, many of whom have probably never seen a working man in his few hours of leisure. The mass of the working men of London are not drunkards, far from it; and to say nothing of our own experience, we may quote the evidence of a highly intelligent Frenchman, M. Nadaud, now member of the Municipal Council of Paris, but who worked as a mason (builder) till the age of forty-one, and who has passed some twenty years in England; he worked and lived among his confrères here—our bricklayers—and he declares them to be sober well mannered men, extremely civil one to another, and says, emphatically, that "they go to work without having put a drop between their lips, carrying in a can the tea made at home for their breakfast." He does not

pretend that there are no exceptions, nor do we, but the above is a generally truthful picture. The men who go to work without a "nip," with their tea for breakfast, are not drunken pot-house frequenters; they do not want "a hair of the dog," because they were not bitten overnight.

The curse, the disgrace, the degradation of London and other great towns are the gin shops; but the average working man is not a gin shop frequenter. Let our well meaning legislators go through the ordeal of visiting a few of these places, as we have done, and they will see that such is the case; the squalid groups that crowd around the gaudy counters, especially on Sundays just before the doors are closed, can scarcely be said to belong to the working classes, they are of the very scum of society,—miserable pariahs in a civilised community. It is at the gin shop counter that men, women, and children, lost to all sense of duty as well as to all shame, degrade themselves beneath the brutes, and bring down upon this city, and others, the pity of the benevolent and the sneers of our rivals.

What will the new Licensing Act do to purify the loathsome gin shop? It used to be held a regulation if not a law, that every public-house was to find seats and a fire for its customers, where the real working man could broil his own steak and eat it comfortably with his pint of beer. What comfort, what rest, can a decent man find in a gin shop? If he wants a glass of beer he is compelled to stand and drink it amidst a crowd of dirty, drunken sots and sluts, and to hear at times the most revolting language that ever offended the ears. If he be a man of proper feelings, he will not enter such a place a second time; if weak and vacilating, he is only too likely to return again, and perhaps to sink to the level of the miserable, lost creatures around him. Surely then here is work for the public house reformer. The gin shop without tap-room, without fire, without the gridiron, has no excuse for its existence. We do not mean to say that a man is to be deprived of the power of getting a glass of beer, or anything else, at the bar, but we hold that no house should be licensed that does not include a decent room with seats and tables in proportion to its size, importance, and situation. Those who cannot forego drinking altogether, are driven to the gin shop because the old tap-room has almost disappeared. The local authorities have, by their negligence, allowed this state of things to come about, and we hold that it is now the duty of the legislature to step in and protect the weakest of the population against these snares, just as it interferes to protect the lives of the work-people in mines and factories.

THE FISH SUPPLY OF LONDON.

The Baroness Burdett-Coutts did a noble and generous act when she erected Columbia Market in that district where her name is specially a synonym for benevolence. This splendid establishment having failed as a general market, her ladyship did wisely to have it devoted chiefly to the reception and sale of fish; but, however generous and self-denying she may have shown herself in making over the market to the Corporation of London, the wisdom of that self-sacrifice has been questioned. The Corporation, as a body, has been accused of having regarded Columbia Market with jealousy, as likely to become a formidable rival to Billingsgate. There is no foundation for this charge, though some influential men, connected directly or indirectly both with the Corporation and with Billingsgate, have persistently snubbed and pooh-pooh'd Columbia. There is, however, one great interest which is of infinitely more importance than the vested interests of the would-be monopolists of the ancient city fish-market, or the growing wealth of a few large fishmongers who would keep in their own hands the supply of fish to fashionable London; and that is the interest of the public. It may suit the great traders of the West End to have a comparatively small supply of fish at prices which fluctuate little whatever quantity may be taken, and which prices are always artificially high; but the East End has a just claim to a fair quantity of fish food; and London at large has a right to insist that the generous plans of a lady, who is as munificent as she is wealthy, should not be frustrated by cliquism, unfair trading, or conspiracy. These may be harsh words, but facts also are hard and stubborn things.

One great reason why the supply of fish to Columbia Market has been scanty and irregular, has been the difficulty of speedy transport from the Great Eastern terminus to the market, and it has long been seen that the only thing required to meet this difficulty would be a tramway. And just for this very reason have some members of the Common Council—happily a minority—and all the influential salesmen connected with Billingsgate, been inimical to this tramway. The latter notoriously deprecate a large supply of fish. They prefer small stocks and large profits. Billingsgate is a market for the rich first and for the poor afterwards, if at all; Columbia, fairly treated, would be a far more important market for he great mass of the Londoners. The former is cribbed, cabined,

and confined; its approaches are utterly inadequate to so large a trade as London demands; and its traditions and management are alike incompatible with free trade and abundant food supply. The latter is larger, more commodious, better furnished with means and appliances for the trade, and is surrounded by an enormous population. At Columbia, the grand idea, selfishly frustrated, was the supply of the poor; at Billingsgate, the narrow and paltry notion is the supply of the rich first, and at any cost, even if the poor have to be sent empty away. Wealthy West Enders are first supplied with the lordly salmon and the noble turbot, and then plaice, herrings, sprats, and "such small deer," are sold to the costermongers for the working classes. The Billingsgate salesmen, who make large profits out of high-priced fish, not only discourage the forwarding of cheaper descriptions, but, if the supply is likely to spoil this exclusiveness, they telegraph to the great fish dealers on the coast to with-hold it. This advice is largely followed. The first purveyors will not send up to the metropolis stock that probably will be spoiled, knowing that the Billingsgate monopolists will meet any complaints with the reply, "We warned you, and told you how it would be." The result is that vast quantities of fish, sorely needed for food, are devoted to manure, or are flung from the fishing smacks into the sea. Now if the Billingsgate magnates can get high prices from the great West End tradesmen, who get still higher rates from hotels and wealthy families, by all means let them keep up this system as long as it can survive free trade; but, in the name of the food-craving public, let us have free trade nevertheless, and let vested interests and would-be monopoly fight out the hopeless battle. We are glad to see that the Court of Common Council has at last taken a step in this direction, being influenced towards this somewhat tardy action by the renewed generosity of the Baroness Burdett-Coutts, as well as by the example of the Great Eastern Railway directors and the Corporation of Yarmouth, who have agreed upon tramway communication at the other end of the line; our Common Council has thus paid a just tribute to public opinion. All those who have given attention to the matter know, and none know it better than the members of that Court, that a tramway for fish trucks, running from the railway terminus into the market, would soon give a death-blow to the practical monopoly of Billingsgate, and would facilitate an abundant supply of fish food in London. Hence the interested opposition to a project which we hope will ere long triumph. But, refraining from heaping blame on the supporters of vested interests, let us congratulate the Corporation on having at last done what it ought to have done long

ago. On the 14th ult., at the Common Council meeting, petitions were presented from several vestries and local boards, praying that the Corporation would construct the tramway alluded to. Mr. Fricker, chairman of the Markets Committee, stated that the committee had decided "by a majority" that this tramway is essential to the success of the market, and he urged the Corporation to carry out the work. A letter was read from the philanthropic Baroness, stating that she did not consider the making of the tramway incumbent on the Corporation; and, after showing that legal difficulties, consequent on her having handed over the market, prevented her doing what she wished, she added, "The tramway was part of my scheme, and therefore I should be glad to carry it out myself, and to make arrangements with the Corporation to enable me to legally do so." This letter at once shows the groundlessness of a charge that was hastily brought against the Corporation, and brings out their recent publicly-spirited conduct in a highly favourable light. In spite of the objections of a minority, the Court of Common Council ultimately adopted the report of the Markets Committee, and the Remembrancer was instructed to prepare the necessary parliamentary notices to give practical effect to this wise though tardy resolution. It is to be hoped that the good work thus commenced will be carried out to completion. It is a matter of vast public importance, affecting the occupations of fishermen, fish dealers, fish curers, etc., on our coasts, constituting a trade, of many departments, that is susceptible of immense development; the trade of retail fishmonger, now hampered by many restrictions on the part of landlords and by the tyranny of wholesale dealers; and, above all, the food supply of London. With an ever increasing population the quantity of fish sent to the omnivorous metropolis is positively decreasing. In 1866 there were brought to London 132,004 tons of fish; in 1871 there were only 116,463 tons. But there are as good fish in the sea as ever came out of it, and teeming millions remain at our service. All that is wanted is free trade, with enterprise and common sense as regards supply and distribution, and the Corporation of London, to whom the community is already largely indebted, may be heartily congratulated on having thus favoured this policy.

J. M. Philp.

The Tomato.—The tomato possesses important medicinal qualities, and is regarded as peculiarly beneficial in affections of the liver and other organs where calomel is considered indispensable.

OUR MEAT SUPPLY.

Free trade having opened the practically inexhaustible granaries of Russia on the east and the United States on the west, to say nothing of minor sources of supply, we may consider that, in times of peace at any rate, our bread is fairly provided for, and our chief anxiety now centres round the meat supply of the country.

It is not merely that our numbers are growing terribly fast, but that the growth is the most rapid in the town populations, and amongst the meat-eating classes. Wages, too, are everywhere rising, and meat buyers are more numerous for that reason also; whilst the increase of wealth in the upper and commercial classes leads to greater expenditure amongst those who have hitherto been the chief consumers of animal food. In every way, then, both in number of consumers and in rate of consumption, the demand for meat is rapidly increasing, and yet our means of meeting that demand are not only not keeping pace with it, but they are positively below what they were five years ago, when our population was nearly a million and a half less in England and Wales alone. Let us make the comparison in actual figures, confining ourselves for the present to Great Britain, and excluding Ireland for a reason which will appear presently. I take 1868 as my starting point, partly because it is the first year after the exceptional period of the cattle plague, which lasted up to September, 1867, and partly because owing to the failure of the root crop and autumn food, consequent upon the dry season, the decline in the live-stock became very marked. The figures stand thus:—

	Cattle.	Sheep.	Pigs.
1868	5,423,981	30,711,396	2,308,539
1869	5,313,473	29,538,141	1,930,452
1870	5,403,317	28,397,589	2,171,138
1871	5,337,759	27,119,569	2,499,602
1872	5,624,106	27,922,864	2,784,890

It will be observed that the figures for 1872 show a re-action, especially in horned cattle, which would be more gratifying were it not that, with foot-and-mouth disease prevailing so extensively, we must consider not only the number of head of cattle, but also their condition, and after so severe and general an outbreak, a considerable percentage must be taken off for deterioration of value for food purposes. Bearing this in mind the above figures have the greater significance. Not only is there a diminution in number between 1871 and 1868 of 86,222, but the return just issued by the Veterinary department shows that during 1871 no less than

519,523 cattle were attacked with foot-and-mouth disease, the loss from which we will estimate presently. This year the visitation has been still worse, so that, as a Lincolnshire grazier described it in a letter to the *Times*:—"It has left both flocks and herds perfect wrecks, and thrown the entire summer's grazing away." Perhaps this is somewhat too strongly put, or the writer may have been very unfortunate, but the fact remains that the numerical census of our herds this year is by no means a measure of their value for food purposes, and I have therefore made my comparison between 1868 and 1871.

When we pass from herds to flocks we are met with a still more serious diminution, the numbers falling at the rate of more than 1,000,000 a year, from 30,711,396 in 1868 to 27,119,569 in 1871, and representing a loss of 3,591,827 sheep, again omitting 1872 for the reason just mentioned. Taking Mr. Thompson's estimate, in his interesting paper in the *Journal of the Agricultural Society* for this year, that 42 per cent. of our sheep come to the butchers every year, we have over 1,500,000 fewer sheep, representing—if we put the sheep at 72 lbs., and the lambs, which form 35 per cent. of the total, at 24 lbs.—83,272,848 lbs. of mutton less to supply our wants in 1871 than we had in 1868 when we had so many fewer mouths to feed. Who can be surprised that mutton is so dear?

Against this great loss must be set a gain of 191,063 pigs, as compared with 1868; and estimating their weight at an average of 100 lbs. all round, we may add two cyphers to the above figures, and put our gain at 19,106,300 lbs. of meat, which rather more than makes up for the loss on the cattle—again taking Mr. Thompson for our authority, and assuming that one-fourth of our cattle, with an average weight of 560lbs., are slaughtered annually; but we still have a heavy balance against us on the mutton account, amounting to a loss of 76,000,000 lbs. of meat, whilst our increased population demands at least 130,000,000 lbs. more per annum, to supply its wants even if the rate of consumption had not increased.

We have next to consider Ireland, which produces a much larger proportion of cattle than Great Britain, "growing," with its total area of 20,325,693 acres, positively more cattle than England with its area of 32,590,397 acres. The numbers for the four last years stand thus:—

	Cattle.	Sheep.	Pigs.
1868	3,646,796	4,901,496	869,578
1869	3,733,675	4,651,195	1,082,224
1870	3,799,912	4,336,884	1,461,215
1871	3,973,102	4,228,721	1,616,754

Here we observe a similar steady falling off in sheep, but in cattle

we have an equally steady gain of 326,306, which more than counterbalances the diminution on the English side of the channel. There is also a very satisfactory increase in "the jintleman that pays the rint," but we will omit the pork question for the present; if all other branches of the meat trade stood as well, we should have but small difficulties to encounter.

But in order to bring the cattle from Ireland, where they are in excess of the wants of the people, to England, where they are so much needed, they have to undergo the horrors of a channel passage, and the standing for 18 or 20 hours in the suffocating atmosphere of the lower deck of a cattle ship. It is during this sea passage that the disease is engendered of which the farmers in England complain so bitterly, and which in a great measure, if not, as I believe, wholly, neutralises the value of the help we might otherwise derive from the fertile Irish pastures. Everybody traces the disease to imported stock, and even the Veterinary department itself admits "that many of the outbreaks in the present visitation of the foot-and-mouth disease have been due to Irish cattle cannot be doubted." This admission renders it the less necessary to discuss the question—capable, however, as I believe of an easy solution, which I have ventured to suggest to Mr. Forster personally, and of which more in another paper—how Lord Spencer's view as to the healthy condition of Irish cattle generally can be reconciled with their acknowledged unhealthy condition when they reach us. I believe Lord Spencer to be perfectly correct, and that there is comparatively very little cattle disease in Ireland, and, strange to say, what little there is is said to have been imported from England, so that the Irish farmers are blaming us in precisely the same way that we are blaming them. However, it is with the Irish cattle in the state in which they reach us that we have to deal, and in keeping our account with Ireland we have only to see whether the disease she sends us does not counterbalance the help she gives.

Assuming, in spite of the Veterinary department, that Professor Gamgee is right, and that the disease does not break out spontaneously, but "is due entirely to contagion, originally foreign," * or at least "imported," as we may not call Ireland "foreign," it is evident that we are more likely to get it from the Irish imported stock than from the foreign cattle, if the disease really be engendered by the unfavourable conditions which are necessarily attendant upon sea transport, because the latter are fenced about with restrictions and their movements watched with a jealous eye,

* See the *Food Journal* for September, 1870, for a paper on this point.

whilst the Irish cattle are allowed to roam about the country at will, and are subject to no more restriction than English beasts. If therefore they are diseased, they have every opportunity of carrying the contagion all over the country. They are also by far the more numerous, for whereas our importations from Ireland for the last four years have averaged 450,000 a year, the foreign imports have only averaged 191,000.

Our account with Ireland then stands thus:—We import 450,000 cattle, worth say 8*l.* a head, and putting the English farmer's profit even as high as 15 per cent., yielding him 540,000*l.* On the other hand we had last year 519,523 cattle (not including sheep and pigs) affected with foot-and-mouth disease. The returns are confessedly very imperfect, and the number was no doubt much higher; but taking the figures as we find them, here are 519,523 cattle upon which we have to estimate a loss of money to the farmers, and, therefore of *money's value in meat* to the public of——what shall we say? The South Wilts Chamber of Agriculture, in a strong resolution complaining of "the very serious losses which the foot-and-mouth disease inflicts on the dairy farmers of the West of England, into which district the disease is very constantly brought from Bristol,"—through the imported *Irish* stock, observe—puts the loss at 2*l.* per head on ordinary grazing cattle, whilst on dairy stock, "in the months of May, June, and July the results are ruinous." Professor McBride, of the Royal Agricultural College, in an extremely able and exhaustive lecture on the subject, puts it at 3*l.* per head on fatted cattle. If, however, we take it at 50*s.* a head all round, including the deaths (a small percentage), we have a loss of 1,298,807*l.* to set against a gain of a little more than 500,000*l.* When we remember that this loss means so many pounds less meat for the people, it will be understood that instead of benefiting by the importation from Ireland we should be much better off without it!

We now come to the foreign trade; but although the consumers in the large towns clamour so loudly about the importance of the foreign meat trade few of them are aware how very small is the proportion of our total consumption which comes from abroad. We imported in 1871 the highest number ever known, but they only amounted to 247,426 cattle, including calves, and 917,077 sheep and lambs; but the average of the four previous years was only 184,249 cattle and calves, 565,124 sheep and lambs, and 61,622 pigs; and taking the weights of the animals respectively at something less than those of English animals, they did not furnish quite 4½ per cent. of the total supply. Nor does it appear to be capable

of that indefinite expansion which some persons imagine to be possible. In 1870, for example, the continental countries were unable to maintain their rate of export, notwithstanding the attraction of the high prices that were ruling in our markets. Another reason is that the cost of production, which has to include transport in the case of foreign cattle, is so near our own that, as was stated by the chairman of the Metropolitan Cattle Market in his evidence before a select committee, "a difference of from 5*s.* to 10*s.* per head would have the effect of keeping foreign animals out of London altogether." That this is not due to the cost of transport, but arises from the cost of production, is shewn by the fact stated in the report of the Veterinary department for 1871, that England "absolutely pays, to get a supply from Scotland, considerably more for the transit of animals than is paid for the transit of those from the continent;" the cost of land carriage by railway being so much heavier than transport by ship from Ireland or the continent. As, moreover, the cost of production abroad necessarily increases as labour and rent are everywhere rising, while the cost of transport cannot be materially decreased, it is hardly probable that we can look for any very great development of the foreign cattle trade except under the pressure of even higher prices than those now ruling; and this does not solve the problem. We want the price of meat to be reduced.

What steam cultivation and the energy of our scientific farmers may be able to do in the matter remains to be seen; but prices of all kinds are rising so rapidly in England, that we fear there is small chance of cheap meat from our own pastures at present. The only source of supply which really does seem capable of any great expansion is the preserved meat trade, which not only gets rid of the difficulty attending importation of live animals, but also places the vast resources of Australia and South America at our service, and will prove a real blessing when our countrymen can only manage to overcome that intense prejudice which seems to be the most cherished part of the constitution of a Briton.—George Walters.

Haricot Beans.—It is gratifying to find that visitors to the City Restaurant, in Milk Street, appear to appreciate this pleasant article of diet to which, as a substitute for the potato, attention has been directed in previous numbers of this journal. The price of haricot beans is about the same in London as in Paris, viz., from 4*d.* to 8*d.* a quart. The small Dutch bean is the cheapest, and probably not at all inferior in quality to other kinds. There is little doubt that they could be sold at much lower rates if brought to market in quantities. At present they are almost curiosities, but it is to be hoped that they will shortly be known to a large body of consumers. The wholesale price of haricots at the Paris market on the 21st of November ranged from 28 to 32 francs per hectolitre, or 13*d.* to 15*d.* per English gallon.

A FEW FRENCH DELICACIES.

Potage à la Gouffé.

The following is the receipt given for a delicious soup by the famous *chef*, Gouffé. Having prepared a thin *consommé* soup with the addition of tapioca, take the white flesh of fowl or other poultry, and some smoked tongue, both cooked together with a truffle or truffles, according to the quantity of soup, cut all these up into shreds, place the whole in a tureen, and pour the boiling soup upon them. It is evident that other cold meats may be treated in like manner. The introduction of what may be called *julienne* of meat into soup is novel, and worthy of the genius of M. Gouffé.

Champignons Farcés.

This delicious dish, known to all cooks in France, is easily prepared, and much relished. Take mushrooms, large or small, according to taste; wash, but do not soak them; dry them well, and finally skin them. Cut off and mince the stalks, and add a quarter of the quantity of chopped parsley and the same of eschalottes, also chopped fine; dry the mince by squeezing it in a clean cloth, and cook it for five minutes with butter melted with a little stock, or *bouillon*; when the sauce is done, pour it over the mushrooms laid in a buttered tin or plate, and place them in an oven, or Dutch oven, for about ten minutes. The delicacy of this, and many other dishes, depends upon whether the cook knows how to make sauce; the best mode in this case being that which is called *roux* in the French *cuisine*, which is as follows:—Melt fresh butter in a small saucepan, and stir in two-thirds of its own weight of fine flour, when completely mixed let the saucepan stand for at least an hour in hot cinders, stirring the butter occasionally with a wooden spoon; if for brown sauces let it stand two hours, instead of one, on the cinders. The *roux* may be used immediately or put away in a covered pipkin, slightly buttered for future occasions. Butter thus melted blends agreeably with all sauces, and forms a delightful contrast to the pasty stuff often served for melted butter. But this is one of the simplest of French methods, the following is the method of preparing one of the great sauces:—

Velouté

is one of the touchstones of the French *cuisine*, and requires an artist to manipulate it The following is a receipt for its pre-

paration :—Butter slightly the inside of your stewpan, place upon the bottom a few thin slices of fat bacon and lean ham, a piece of veal, a fowl, two or three small carrots, as many onions, in one of which should be stuck two cloves, and a small bunch of parsley, and as much stock, or *bouillon*, uncoloured, as will cover the meat; cover the saucepan, place it on a hot fire, and let it boil well, stirring from time to time till the liquid is considerably reduced; then add a little more *bouillon*, withdraw the saucepan gradually, prick the meat with the point of a knife from time to time, and keeping the saucepan in a position just hot enough to keep it boiling, and no more, till the meat is well cooked; the sauce is then drained from the meat and herbs through a cloth, replaced in the saucepan, and melted butter, prepared as above described, stirred into the mixture a little at a time; the sauce is then allowed to boil for an hour and a half; a little stock, and a handful of trimmings of mushrooms being added. When cooked, the sauce must be skimmed again carefully, and next poured into a glazed earthen vessel and *fanned continually till quite cool*—a curious refinement in treatment; the vessel is then to be covered with paper and set by in a cool place till wanted. Velouté serves for the preparation or improvement of sauces for all white dishes.

It is not, however, only in the production of such dainties as the above that the delicacy of the French *cuisine* appears, but in the every-day treatment of the most simple eatables, such, for instance, as potatoes. Fried potatoes are almost invariably well cooked whether to be served at the tables of the well-to-do, or to be sold by pennyworths at street corners, while in England it is rare to find them well cooked anywhere, though the operation is simple enough. Lard is the usual and, perhaps, the best grease for frying in, though some people prefer dripping; in either case there must be plenty of it, for good frying is, in reality, *boiling in grease at a high temperature*, and the heat is easily tested by throwing a piece of bread into the fat; if sufficiently hot the bread is browned instantly. But the fat requires purifying, and this is easily done by sprinkling it gently with water from a whisk while it is in a boiling state, the water is instantly converted into steam which carries off all unpleasant flavours; the fat improves by use, being poured into a clean jar after each frying, more being added from time to time to supply waste.

Chateaubriand.

This is a favourite dish, the most approved form of steak and potatoes. The meat is a slice of the fillet of beef, cut at least an inch thick, and generally very much underdone, and served with a

good sized piece of butter, with the addition of a little chopped parsley, but for those who like pure gravy the butter is an impertinence. Sometimes an anchovy is chopped up and added to the butter. The other element of the Chateaubriand is what are called

POMMES DE TERRE SOUFFLÉES,

those delicious blistered potatoes, rarely or never seen on English tables; the potatoes, if small, are simply slit in halves, if large, cut into three or more slices, these are fried in the usual way, but are taken out before they are quite done, and set aside to get quite cold; when wanted, they are fried a second time, but only until they are of a light golden colour, not brown.

POMMES DE TERRE SAUTÉES

are even more agreeable with meat than fried potatoes; cold boiled potatoes are sliced up, and tossed up in a saucepan with butter, mixed with a little chopped parsley, till they are lightly browned. Pure goose or other dripping is by many cooks preferred to butter for this purpose. But the achme of delicacy in the cooking of potatoes is achieved in what are called

POMMES DE TERRE À LA DUCHESSE,

requiring a little more trouble. The following is the receipt of a good cook in a private family in Paris:—Take five middle-sized cold boiled potatoes, grate and mix them with five dessert spoonfuls of flour and a halfpenny worth of milk, adding to the mixture two eggs well beaten up; prepare a pan full of boiling fat, and drop spoonfuls of the paste into the fat, taking out the instant they have acquired a delicate golden brown colour. With moderate care potatoes thus cooked are delicious.

PURÉE DE POMMES DE TERRE.

This only differs from English mashed potatoes in the employment of more milk and butter, and in the whole being carefully reduced to a perfectly smooth thick cream-like mixture. Where economy is a great object, and for those who cannot digest rich dishes, the following is an admirable mode of mashing potatoes:—Boil them till thoroughly done, having added a handful of salt to the water, then dry them well, and, with two forks placed back to back, beat the whole up till no lumps are left. If done rapidly, potatoes thus cooked are extremely light and digestible.

A lady long accustomed to French cookery says, "Half the potatoes I eat in England are spoiled for want of salt being added to the water in which they are boiled."

E. F. P.

AFTER QUALITY, QUANTITY.

THERE is about roguery—roguery followed as a business or profession—one quality which, if not exactly pleasant to honest folk, is certainly profitable, or at least instructive. It is ambitious. Like merit, rascality will not be hidden, but crops to the surface, even as a blade of rank grass through a church-yard soil. "Too clever by half" (talking of church-yards) might well be inscribed on the tombstones of those citizens whose artistic genius, through life, soared far above the low-lying fields of commerce in which meaner natures stoop to a proper discrimination between the rights of *meum* and *tuum*.

There's your skittle-sharper for instance,—to travel for the sake of apt illustration out of our direct road,—the lucky youth, the *enfant gaté* of fortune, who with his pockets full of coin of the realm, the legacy of a dear relation recently defunct, is constantly meeting, by the merest accident, the young man fresh (very fresh) from the country; were it only possible for this artless individual to confine himself to the muddy waters of life, and not be evermore thrusting that inquisitive (and friendly) nose of his too far above the surface, how peaceful might be his lot! Then again there is, to come nearer home, the ingenious Bucolic, "*ingenuique pudoris*," the dairy farmer, who will insist on presenting a regular customer with five half-gallons of water a day, and kindly mixing it with his milk, fleecing him to the tune of 17*l.* 10*s.* during 150 days, and being cruelly fined by an unsympathetic Justice of the Peace in the sum of 40*s.*, thereby pocketing 15*l.* 10*s.* by the transaction. Had this illactometrical genius only contented himself with "drawing it mild," who knows how long he might have continued in the undiscovered *semi-lactea via* which would have led him speedily to fortune? But no; and thus it is with them all, they are too ambitious; their little game, in consequence, is destroyed by greed, and their scruples, smothered by dishonest gain, at length lead to their own undoing.

We make mention, specially, of the case of this dairy farmer because his offence ranks just half way between the rascally adulterator and the thief who only cheats by false weight or short measure. We have had a good deal to say, for some time past, to

the former of these worthies, and as the bull's-eye of the law is now turned fully on him, and he cannot escape save through the negligence of those whose duty it is to enforce the Act framed expressly on his account, there will be more leisure for the consideration of the rogues who, being unable, in some cases by the very nature of their wares, and in other cases deterred by the formidable penalties they would incur, do not indeed undermine the constitutions but only operate upon the purses of their victims.

There is law for these persons also, but just as a fine of 40*s*. was only an encouragement rather than a punishment for our dairyman, so are, in reality, the inadequate penalties in which those who habitually use false weights and unjust measures have hitherto been mulcted. It is almost impossible to exaggerate the iniquity of the wicked retail dealers who live by the plunder of the very poorest of the poor; neither is it an easy task to compute the aggregate of their unrighteous gains. Even the theft of a single ounce repeated a thousand times in a week and multiplied by the number of the weeks in the year represents at once a frightful wrong, and a huge unholy profit; but we know that in the item of fruit, vegetables, and other "general" provisions, the needy classes are defrauded to a much greater extent than one ounce in an individual transaction, and when in their cases we remember that the very farthings have to be counted and wistfully eyed in the anxious reckoning for the barest sustenance of the little ones at home, we have before us so cruel a picture that no penalty seems to be too high, no punishment too severe for men who will basely plunder the slender stores for which this poor honest struggler has paid in hard-earned cash.

The law decides inexorably the standard both of weight and measure, so inexorably, indeed, that in a recent case a person was fined for having a measure which contained more than the prescribed quantity. There may appear, at first sight, something ludicrous in this, but reflection at once shows us the wisdom of the decision. If it is open to any individual vendor to enlarge his measures, the law is not complied with; a license is ceded which forms a precedent for all others, and we may be quite certain from actual experience that this license would not be, as a rule, made available for the enlargement of the measure, but very much the contrary. Since, then, the law fixes the exact standards both of weight and measure; seeing that both are habitually criminally paltered with to the disadvantage of the public, especially of the poorest class; considering the fact that the penalties hitherto inflicted are not sufficient to deter dishonest persons from their vile practices,—is

it urging too much that increased vigilance on the part of the proper officials, and far severer punishment in cases of conviction, should henceforth invariably be enforced? We have increased the fine for drunkenness from 5*s.* to 40*s.*, with the discretion of imprisonment; how much more deserving of punishment are the thieves who rob the poor, than the man who simply robs himself; and while he is punished—severly punished—is it right, is it just, is it wise, that those others should be dealt with so leniently as to encourage their crime by the very penalty which professes both to punish and suppress it?

J. Montagu Sims.

Prices of Provisions in A.D. 1315.—The following royal writ of Edward I. of England is interesting as an instance of the vain attempts which were made in this country in former times to regulate the prices of provisions by authority, instead of allowing them to be determined by the natural law of demand and supply; and also as showing the ordinary prices of certain important articles of food supply in the year 1315:—"Edwarde, by the grace of God kynge of England, etc. To Shiriffes, Majors, Bailiffes of Fraunchises, greeting. Forasmoch as we have heard and understanded the greevous complayntes of Archbishops, Bishops, Prelates, and Barons, touching great dearth of victuals in our Realme: We ordeyne from henceforth, that no Oxe stalled or corne-fedde, be sold for more then xxiiii s. No other grasse-fed Oxe for more then xvi s.; a fat stalled Cowe at xii s.; another Cowe lesse woorth, at x s.; a fat Mutton corne-fed, or whose wool is well growen, at xx d.; another fat Mutton shorne at xiiii d.; a fat Hogge of two yeres olde at iii s. iiii d.; a fat Goose at ii d. ob., in the citie at iii d.; a fat Capon at ii d., in the citie ii d. ob.; a fat Hen at i d., in the citie at i d. ob.; two Chickens at i d., in the citie at i d. ob.; foure Pigions i d., in the citie three Pigions i d. Item xxiiii Egges a peny, in the citie xx Egges a peny. We ordeyne to all our Shiriffes and our other ministers whatsoever they be, that yf any person buy or sell any of the thynges above named, contrary to our ordinaunce aforesayde, that the ware be forfaite, and due penaltie set upon them, according to their desart. Geuen at Westminster vnder our greate seale the xxiiii day of Marche, the viii yere of our reigne."

Mons. T. Schmidt's researches on the commercial value of grape-stones are given in the *Würzb. gemeinnütz. Wochenschr.* He calculates that 30 to 40 lbs. of seed per acre of vineyard are ordinarily produced, and, with the exception of the tannin which they contain, and which is used in the clearing and manufacturing of wine, the whole is looked upon as a waste product. When, however, these seeds are properly roasted and ground, they possess an aroma very much like that of East India coffee, and the beverage obtained therefrom is about the same in taste, although not in strength, as coffee. The author recommends the following mode of procedure:—Take an ounce and a-half of the ground preparation, and boil it for five minutes in a quart of milk, adding a little cinnamon and cloves. When filtered and sweetened to taste, a beverage is obtained resembling chocolate, with the same reddish tint. It also becomes thick like cocoa on being allowed to stand for awhile.

BEETROOT DISTILLATION.

While in France great quantities of alcohol have long been distilled from beetroot, its cultivation and use have hitherto been of a very limited character so far as England is concerned. Prior to 1869 feeble attempts were made to grow the root in this country with a view to distillation, but it seems that there was nothing like a thorough and vigorous effort made to test the capabilities of our soil and climate for the advantageous cultivation of the root, until subsequently such an experiment was made in Berkshire, on the large estate of Robert Campbell, Esq., who, encouraged by the success attending the cultivation and use of beetroot across the channel, began to grow it on his own land. Analytical tests afterwards proved that weight for weight the root thus reared exceeded in its percentage of saccharine matter the best that was grown in France. Stimulated by this fact, Mr. Campbell has continued to cultivate beetroot, and within the present year has had no fewer than 1,000 acres planted with it. At the beginning of September last he realised a rich and abundant yield. In 1869 he built a distillery, said to be the largest in Europe, and when it is in full operation, employment, at good wages, is found for over 100 men in the place, and a large number of labourers are engaged outside in taking up the beet. The peace and repose in which the village of Buscot is ordinarily wrapped, is thus broken in upon by the noise and bustle which are the necessary consequence of a thriving manufacture. The beet—the seed of which is sown in June—is ripe, under ordinary circumstances, about the 1st of September in each year. It has the appearance of a mangel-wurtzle, save that it lacks the reddish tinge of that plant. The beetroot averages two pounds in weight; beyond this weight it wants the substance and solidity requisite to the manufacture of good spirit.

Merely premising that the development of this branch of industry cannot fail to have a most beneficial influence upon the agricultural prosperity of this country, we will briefly describe the process adopted in the distillation of alcohol from the root. In the first place the beet is conveyed from the fields in trucks driven by locomotives, the ordinary modes of conveyance usually in vogue in rural districts being too slow for the active mind of Mr. Campbell, who has consequently girdled his estate with railway lines. Arrived at the distillery the trucks topple their contents into elevators,

which, in their turn, deposit the beet in "washers," or large iron troughs, provided with revolving arms. After being cleaned it is again raised by elevators until it reaches a machine with large revolving cutters, which reduce it into thin slices. It then passes along a travelling belt to scales in which it is weighed, and finally reaches the fermenting vats, twelve in number, and each capable of holding 15 tons. The process of fermentation over, the beet makes another journey along a travelling belt to the stills, of which there are six. Here it is placed on eighteen perforated plates or "diaphragms," as they are technically called, and as each plate is charged with its layer of beet it is lowered on to the plate below, and so on in succession until the still is charged. A cover is placed over the still and tightly screwed down, and then steam is admitted at the base and drives the spirit into the receivers. At this stage of the process the spirit is designated "low wines." It next passes through the hands of the rectifier who extracts the oil, etc., from it, and produces white pure spirit 69° over proof. From the rectifier the spirit goes to the bonded stores whence it is removed in iron casks holding about half-a-ton each. The refuse or pulp, after being cooked, is found to be a very nutritious food for cattle, of which Mr. Campbell has a most extensive stock.

The distillery, together with a great oil and cake manufactory, is pleasantly situate on the banks of the river Thames or Isis, whence, by the aid of powerful machinery, a reservoir in Buscot Park, capable of holding 30,000 gallons, and covering 30 acres of land, is filled. This reservoir has been constructed for the express purpose of irrigating the land, which is further improved by an excellent artificial manure, also manufactured on the estate.

The spirit derived from the beetroot is, we hear, very largely used in the composition of brandy, gin, eau de Cologne, etc. The distillery is capable of dealing with 120 tons of beet daily, and each ton has been ascertained to yield from 17 to 21 gallons of proof spirit. The extraordinary enterprise of Mr. Campbell naturally attracts large numbers of people to view his achievements, and his visitors occasionally include distinguished members of the aristocracy.

D. O.

CHERRY BRANDY.—We have received for analysis a sample of Morella Cherry Brandy, manufactured by Mr. Grant, of the Maidstone Distillery. Our analyst reports it to be a good article, free from adulteration of any kind, and possessing, together with a proper amount of spirit, the volatile and extractive matters which would be extracted by spirit from fine black cherries. Its flavour is excellent, and in houses where the domestic arrangements do not reach to home-made preserves and cordials, it is likely to be at all times in great request.

DECREASE OF THE SHEEP STOCK OF GREAT BRITAIN.

The agricultural statistics of 1871 exhibit one very unpleasant fact, a great decrease of the stock of sheep in Great Britain. The decrease began in 1869, and has become greater year by year. The stock of sheep in England and Scotland in 1871 is reckoned as 27,119,569 sheep; and this is about 4,250,000 fewer than in 1868, a diminution of about one-seventh. The decrease in the stock of sheep is the more to be regretted, when it is observed that the clover and root-crops of 1871 were more than usually abundant, so that turnips and mangold were sold at extremely low prices, and, indeed, could scarcely be sold at all, some farmers ploughing them down for manure. There were not sheep and oxen enough in the country last winter to consume all that the fields had produced. Farmers bought sheep at prices hitherto unheard of; but, even at these prices, sheep were not to be obtained. The explanation of this state of things is that we had years of unusual drought in 1868 and 1870, and for some time also an extensive prevalence of foot-and-mouth disease, and farmers who had large stocks of sheep suffered in consequence. They were under the necessity of sending their sheep to the market when very far from being properly fattened, and of selling them for what they would bring; and so they resolved to guard themselves against such danger for the future by breeding fewer sheep, and waiting to see how their clover and root-crops were to turn out, thinking that they might then purchase as many sheep as were required to consume them. It would have been all very well if it had been the policy of only one shrewd farmer in a district; but, unhappily, all, or very many, were equally shrewd, and the result was that they outwitted themselves. When they would fain have had the sheep, they could not get them, and much of the rich produce of their fields was lost, or very nearly lost. Meanwhile, however, the country has sustained a loss, which at last falls only very partially upon the farmers. As a nation we are poorer than in 1868 by some four and a quarter millions of sheep, which we may, probably, not be far wrong in estimating at 8,500,000*l.* sterling, no inconsiderable sum of money. And in consequence of the diminished number of sheep, we have an increased price of mutton and lamb, every consumer of which bears his share of the sum above-mentioned. Had our farmers, generally, considered well, there would have been no such state of things as we have at present to deplore. When farmer A thought

it good for his own interest to discontinue in whole, or in part, the breeding and rearing of sheep, it might have occurred to him that farmer B was likely to do the same; and shrewd practical men might have foreseen that if this course were generally adopted over the country there would be such a difficulty in procuring sheep for feeding as has since been experienced. The mistake, however, has been committed, and all the foreign sheep which we import, and all the Australian and New Zealand meat brought into the market will not prevent our feeling the consequences. Apart from the question of the increased price of mutton, we have to consider the diminution of the quantity of wool produced, and other analogous results. If, in 1868, or any other year, one seventh part of our sheep stock had been destroyed by murrain or any other unpreventible cause, what an outcry there would have been! Should we not have heard of the wholesale ruin in which our farmers were involved? The loss to the country is not less than if such a calamity had taken place. But the great question now is how to remedy the evil. We have no doubt our farmers will soon find a remedy for it in returning to their old practice of breeding and rearing sheep, wherever their farms are suitable for the purpose; counting, as they safely may, on an ordinary course of the seasons in which droughts like those of 1868 and 1870 will only be exceptional. But is it not possible to guard, in some way, against the sad effects of such droughts? We are inclined to think that it is. Irrigation has hitherto been almost entirely neglected in this country. We have, indeed, many admirably watered meadows laid out at great expense, and yet amply remunerative. We have also began to irrigate fields with the sewage of towns, turning to profitable account what was formerly a nuisance of the worst kind, a constant source of pestilence, and destructive of the amenity of otherwise beautiful and pleasant districts along the banks of the rivers which it polluted; but of irrigation as an ordinary means of increasing the productiveness of our fields, we seem scarcely to have thought. Our climate is moist, and we can never be so dependent on irrigation as the inhabitants of some other countries. It does not follow that we would derive no benefit from it. We have done much in drainage, and are doing more every year; but the more we drain, the more necessary does it become to have the means of irrigation when it is needed. For the utmost productiveness of the soil it is not only requisite that superabundant water be quickly removed, and that none be allowed to stagnate in the ground, which is what drainage accomplishes, thereby vastly increasing the

productiveness and value of land, but it is requisite also that there be a proper supply of moisture at all times. Well-drained land suffers from drought more speedily than land undrained. In our climate the most thoroughly drained land is still the most likely to produce good crops; but there are few years in which—even although there may be no long continued drought—the farmer would not be glad to have it in his power to moisten the fields in which his turnips have been newly sown, or are just springing up, and many similar cases will readily occur to every one at all conversant with agriculture. Ought we not, therefore, to adopt a system of irrigation almost as extensive as our system of drainage? The expense will probably be urged as a reason against it; but what would our grandfathers have thought of drainage as it is now carried out in our best cultivated districts? The 8,500,000*l.* which have been lost since 1868 by the diminution of our sheep stock would have gone far to render us comparatively safe from the effects of droughts by providing the means of irrigation. There are many places in which irrigation might be easily accomplished without the necessity for artificial reservoirs for water; but even where the construction of these would be necessary, it might be well worth while to construct them, and there would be no difficulty in getting them filled; for we can reckon on a certain rainfall in the year as confidently as we can on the sunshine, without which no crops would ripen. In a single day of heavy rain we have often a rainfall of more than an inch; an inch of water on an acre of land is almost exactly equal to one hundred tons. It goes off to the sea with a rapidity which the general drainage of our fields has of late years greatly increased. It might be well that we should catch and store more of it than we do for the use of towns, and thus, perhaps, more expensive works for the supply of water to them might be rendered unnecessary. It might be well also that we should catch and store some of it for the irrigation of our fields, which, being both well drained and well watered, would reward us by exuberant fertility, rejoicing especially in the heat of those dry and warm summers which we at present regard with apprehension of stinted harvests, the failure of root crops, and the want of food for sheep and cattle. A most interesting experiment has been made this year by the Duke of Sutherland, in his park at Dunrobin, Sutherlandshire, and rainy as the season was, the result of irrigation, not with sewage, but simply with water, was found to be a prodigious increase of the produce of a rather poor and shallow soil.

J. Montgomery.

BREAD.—No. 2.

ATTEMPTS have been made to render wood-fibre alimentary, and with a certain degree of success; but the process is so troublesome and expensive that it can never supply a common article of food. The experiment was first tried by Professor Autenrieth, of Tubingen. The chief difficulties he sought to overcome were the treatment of the fatty matters contained in the woody-fibre, and the compact aggregation of the material itself. Hence he rejected such woods as the fir and the oak; the former owing to the resin it contains, the latter in consequence of its astringency. The birch and the beech he considered best adapted for his bread experiments, as possessing little taste or smell.

The first operation was to reduce the wood, not into fine fibre merely, but to an absolute powder. Then it was submitted to the repeated action of the heat of an oven, which was supposed to have rendered it more digestible, as in the case of coffee. Prepared in this way, wood is said to acquire the smell and taste of corn flour, albeit it retains a yellowish appearance. Like corn flour, too, with the addition of leaven, it makes a perfectly uniform and spongy bread, and when thoroughly baked and rendered crusty is not by any means unpalatable, perhaps not very unwholesome, and preferable to the bread concocted in times of scarcity from bran and corn husks. A somewhat lengthy and interesting account of Professor Autenrieth's various experiments may be found in the *Edinburgh Magazine*, vol. i. (1817).

On the 17th June, 1824, bread was first ordered to be sold by weight in London; and an Act passed in the reign of William IV., which came into operation on 1st October, 1836, extended the same practice to the provinces. By an enactment of Victoria (July 4, 1838), all former laws relating to the sale of bread in Ireland were repealed, and a new assize established in that country. And here it may not be inopportune just to note the fluctuations in the prices of bread since the year 1754. At this epoch the cost was 4*d*. per quartern loaf. In 1757 it rose to 10½*d*. During 1800 (when new bread was forbidden under a penalty of 5*s*. the loaf, if sold under twenty four hours old), it had increased to 1*s*. 5*d*. In

January 1801, it was 1*s.* 11*d*; in July, 1810, it advanced to the high figure of 2*s.* 5*d.*; in 1823, it declined to 10*d.*; and in 1833 to 8½*d.* about the price at which the quartern loaf ranges at present. Cheap bread is an inestimable boon, being the infallible indicator of social prosperity and augmented domestic comfort. Singular to observe, the low price of bread (which necessarily is dependent on the current value of wheat) materially influences the marriage market, to use a commercial if not a comely metaphor. When bread stands at an unduly high figure, a remarkable falling-off occurs in marital alliances. When the commodity is cheap, it very sensibly affects the Registrar-General's returns in this particular. "The doctrine of the soundest writers," remarks a shrewd political economist, "on the theory of population has established the law which connects the increase of the human race with the supply of food; and the tendency of population to out-run the supply of food is one of the chief dangers of society and the chief causes of distress."

Of all the industrial arts, none has made so little progress as that of "panification," or bread-making, although

"To their ruin, every age
Improves the arts and instruments of rage."

Century after century, whilst the marvels of human ingenuity have been steadily advancing and civilising mankind, this alone has remained almost stationary. With few creditable exceptions, those who supply our tables with the "staff of life" pursue the old barbarous modes of trituration and amalgamation of the materials, a process scarcely differing from that in vogue during the primitive times of Fabricius and Cincinnatus, which has caused a foreign author to remark: "We have become Titans through the medium of science, which nevertheless has not given us bread worthy of man." The ordinary method of bread manufacture is not only coarse, filthy, and disgusting, but is fraught with fatal consequences to those engaged in this—as at present pursued—demoralising and health-destroying occupation.

As one of the class of "white slaves" the journeyman baker stands pre-eminent. From the hour of eleven at night until five, six, or seven o'clock in the morning, and occasionally for a much longer period, this helpless victim of a "social evil" plies his laborious and unwholesome handicraft, and for a pittance varying from 10*s.* to 1*l.* 10*s.* per week, the *maximum* reward of such incessant drudgery. Half-naked, in a highly-heated, pent-up, underground room, the atmosphere of which becomes densely impregnated with insidious particles of flour, he toils with his hands—ay,

and even with his feet—until the perspiratory fluid rolls in thick drops from his exhausted body, kneading the tenaceous dough that is to form important human food. As nature will not brook so flagrant and systematic a violation of her righteous laws, so the avenging Nemesis of justice, slowly, perhaps, but surely, pursues the transgressor. Overwork and impure air, combined with an unhealthy occupation, soon tell their sad tale upon the wretched journeyman. He is struck down ere he reaches the prime of life, while his family have no alternative but to beg their bread or seek the miserable refuge afforded by the parish. It is an unquestionable fact that there is a far higher mortality among bakers than among the operatives of any other unhealthy calling, not excepting miners, knife-grinders, stone-masons, or silk-printers. According to the most reliable statistics, I find that (exempting all youths connected with the trade who die before they reach man's estate) the average period of life attained by the journeyman baker is but forty-two years. Coupled with this excessive mortality, the ordinary existence of the wretched baker is but a protracted condition of ill-health, not unfrequently terminating in consumption, which Dr. Letheby emphatically terms "the malady of bakers?" Some master bakers, to their credit be it said, have abolished the system of night-work in their establishments; an example which, I trust, will be widely followed.

But among the host of disorders attendant upon the occupation of a baker, there is notably one which, however repugnant, nay loathsome, in itself, is yet necessary for the bread-consuming public to know. I allude to the cutaneous disease, that principally affects the hands and arms of the operative, characterised by the vulgar epithet of "the baker's itch." This apparently arises from the constant contact of those members of the body with bread ingredients, and the fermentative condition of the dough; the presence of saline particles greatly aiding the development of that disgusting eruption. Surely if it were needful for the Legislature to interfere in the case of factory workers, in order to save them from the grinding tyranny and rapacity of some heartless task-masters, the majority of operative bakers have not less claim upon the sympathy of the nation, and the interference of the State. But, if not on humanitarian grounds, assuredly regard for cleanliness and decency should induce the public peremptorily to demand a less objectionable system of bread-manufacture than that which at present obtains. Of this I shall treat in a subsequent and concluding article.

S. Phillips Day.

PLUM PUDDING AND MINCE PIES.

In England plum pudding is a dish which is thoroughly "understanded of the people." Every English housewife knows that the more plums, peel, etc., the richer the pudding; on the other hand, the more flour and the less fruit, etc., the poorer will the pudding be. Also, every one knows, though they are not necessarily otherwise well versed in culinary affairs, that it is almost impossible to boil a plum pudding too long, if it is a large one. Every schoolgirl is aware that about six hours is the minimum time to allow for the cooking of the Christmas pudding. This is what, with all their knowledge of cookery, Frenchmen can never understand; whenever they exercise their skill upon plum pudding, and other puddings of a like nature, a lamentable failure is almost always the result.

An Englishman resident in Paris, determined not to be baulked of his Christmas dinner, imported a pudding from London, and gave his cook strict injunctions to take especial care of it, and minute directions as to the manner in which it was to be warmed. She, thinking there must be some mistake, pulled the pudding to pieces, stewed the mangled portions in several quarts of water, and served it as porridge in a tureen. The feelings of her master can be better imagined than described. The French cooks, besides failing to comprehend the nature and constitution of plum pudding, are also deplorably ignorant of the mystery of making bread sauce. I well remember, years ago, inducing the *maître d'hôtel* at the Café Anglais in Paris to concoct some bread sauce, and, not trusting to the *chef* the accomplishment of the delicate operation, the *maître d'hôtel*, with great magnanimity, undertook to perform the operation himself. The result was a *fiasco*—bread and milk is not bread sauce.

You cannot get either plum pudding or bread sauce in perfection in any other country in the world except England. They are specialities of our national *cuisine*. It would be invidious to give any directions for preparing the Christmas pudding; every family has its own traditions on the subject; but I may say that too often the only fault of the family receipt is that it does not appoint a sufficient number of hours for boiling the pudding. Some people

think sauce with plum pudding is heretical, but it will be found really to improve it; and I would recommend for this purpose the "American Sauce for Plum Pudding," which appeared in the *Food Journal* of February, 1871, to which I would add a few improvements, which considerable practice has suggested, and which I have proved to be advantageous. This sauce is known by various names—Excelsior, Camperdown, Oxford, Cambridge, and others. The principle is the same in all of them;—it is, that the act of whipping butter forms it into a paste of the consistency of Devonshire cream. It is sweetened and flavoured, and served cold.

I would take the same quantities as suggested in the receipt given in the *Food Journal*, but I would use rather more powdered sugar, and would add a little grated nutmeg, a large tablespoonful of brandy and two of sherry, instead of the wineglassful of brandy. And yet, given the necessary ingredients and the right qualities, I defy an inexperienced person to make it successfully without further directions. Whip the butter and sugar together with a fork until light and quite white, then add the brandy and sherry by degrees, and the nutmeg, and beat it all together until thoroughly mixed. But still another difficulty will occur in accomplishing these instructions, for the secret consists in holding the basin in which you are whipping the mixture at a little distance above the fire, when—heigh! presto!—all the ingredients will mix and amalgamate without any difficulty. But beware of warming the materials. I have given this receipt at so much length, and with such minuteness of detail, because without full instructions the sauce cannot properly be made; and if any of my readers succeed in making it, I warrant no plum pudding will ever afterwards appear in their house without "Camperdown Sauce."

One word regarding mince pies, and I have done. As with plum pudding, so with mince pies—the richer the materials and the more port wine and brandy used, so much the better will they be.

The ingredients of mince meat should be tripe, suet, apples, currants, citron, lemon, and orange peel, spice, sugar, port wine, brandy, well mixed in such proportions as the traditionary teaching of the family may direct.

There is one remark with which I would conclude: Innovation, not improvement, has radically altered the mince pie of the present day from its original shape. The little round paste cases, enclosing in their centre an infinitely small quantity of mince meat, are but the degraded and all but undistinguishable representatives of their

ancient prototype. The mince pie should be, and originally was, a substantial oblong case of paste, containing a thick and solid body of mince meat.

I would urge the propriety of returning to the original form, on the score of reason and common sense, as well as of the superior deliciousness of the old-fashioned pie, in which there was, at least, as much mince meat as crust.

For the mince pie, it has been stated, is intended to represent the manger at Bethlehem, and the mince meat the gold, frankinsense, and myrrh, the offerings of the wise men. A round manger is assuredly an anomaly, and the gifts were not inconsiderable in quantity.

P. L. H.

CORRESPONDENCE.

To the Editor of the "Food Journal:"

Sir,—There are two suggestions which, in the interest of Australian meat consumers, I should be glad to lay before Australian meat producers and purveyors.

Everyone who has tried the tinned meat knows that by cutting it across the grain and thus obtaining thin transverse sections of the meat fibre, stringiness is got rid of, mastication is rendered easy, and at the same time an appearance of neatness is preserved. The meat, as at present packed in the tins, lies with the fibre in every possible direction; and when the tidy roll, as it emerges from the tin, falls in a confused heap on the dish, the eye is offended, economy is frustrated, and the ingenuity of the carver is put unfairly to the test. As a remedy for these acknowledged evils I would suggest that to some extent, at least, the direction of the fibre might be borne in mind during the process of packing the tins. If muscle were tucked in lengthways it would cut naturally and neatly like a brawn when turned out, and much saving would be effected. This would be still more facilitated if a membranous fillet could be devised for holding the roll of meat together during consumption. This should be soft when moistened, adhere closely and firmly when dry, yet be thin enough to be sliced through with the meat. Possibly some form of vegetable parchment might be made cheap enough and strong enough to answer the purpose. Such a fillet, if applied to the roll of meat on its leaving the tin, would make a manageable and tidy dish, in place of the unappetising mess which is now frequently unavoidable. I will say one word only on the subject of preparing the meat. Undoubtedly it is most wholesome, and to the majority of persons it is most palatable cold as it comes from the tin. Should the stringiness be an objection, an ordinary mincing machine does away with that at once, and the whole is reduced to a state well adapted for children, for invalids, or for potting with spice, if there is more than can be consumed, while the meat is fresh.—I am, sir, yours, etc.,

E. T. Wilson.

PILCHARDS.

That the enormous takes of these fish which sometimes reward the toil of our Cornish fishermen should be wasted, is surely a thousand pities. It would appear that the pilchard as at present cured, is only appreciated in the Italian and Adriatic markets. There it is eaten without cooking, between a couple of slices of bread, or with oil, vinegar and pepper. Certainly, as at present cured, they are not calculated to please the fastidious palates of the people of England. The cheap rate at which this fish is sold, when the season has proved unusually productive, is frequently the cause of loss to the fishermen, who, when the pilchards are less plentiful, obtain better prices, and their fishing implements suffer less wear and tear.

Last year an abundant harvest was obtained off the Cornish coast, the Italian markets it appears are still glutted with the produce, and the fish are selling at a price which does not pay the expenses. Consequently, there is no market for the present season's supply. The pilchard is a rich, delicious fish, and when eaten fresh is certainly equal, if not superior, to the fresh herring. But from the distance at which the fisheries are situated from a market, it does not appear possible to present them to the public in a fresh state. Why not, then, cure them as herrings are cured? Our Cornish brethren would assuredly do well to cure them to suit the tastes of English consumers, now that the Italians no longer furnish a sufficient demand for the consumption of the supply. A little ingenuity and energy on the part of those whose interest it is to find a market for these fish, would certainly effect the desired alteration in the process of curing them. They should be mild-cured for the English market, and then there is no reason why the pilchard should not rival the red herring in the English cottagers' home; but we cannot appreciate the frightfully salt, rancid flavour of the pilchard as cured for the Italian market. It is said that the smaller sized fish are thrown away as being utterly useless. Now, there is nothing in the world to prevent these smaller fish from being cured as sardines are, a fish they much resemble in flavour and shape. A sure fortune might be guaranteed to a speculative and energetic person, with capital at command, who would erect the necessary works on the

coast of Cornwall, for effecting, on an extensive scale, the process of curing and preserving these fish for the English market, both in the form of sardines and herrings. *

It appears that the price of pilchards at the fishery is now sixpence for the Cornish hundred of 126, and it is said, that any amount might be obtained if the buyer would guarantee the fishermen one shilling per hundred for the season's catch ; and so a valuable source from which we might derive no despicable supply of nourishing food is in danger of becoming totally neglected, simply for want of the necessary skill and energy required for preserving the fish in such a manner as to cause a demand for them in English houses. The pilchard is a very nutritive kind of fish, and it is a pity, now that food of all kinds is so dear, that anything which would augment our supplies should be neglected for want of the knowledge required to prepare it for market. Large quantities of anchovies also are caught at certain seasons of the year off the Cornish coast, and these, too, are totally useless for want of being roperly cured for market.

It is stated that pilchards, preserved like sardines, were sent some three or four years ago to Australia, but the process was only carried out on a very limited scale, and owing to the indifference of the consignee as to the result of the experiment, and the expenses of transit, the receipts barely paid expenses. But, surely, this, as a first step, should have been deemed encouraging for further experiment. Nevertheless, the speculation was not again tried. There is, however, surely no reason why pilchards should not be smoked or cured as herrings are, and we commend the experiment as being probably a most lucrative one, to any person who may have time and capital to carry it out to a successful issue.

* It appears that the curing houses and other buildings used in preparing the pilchards for the Italian markets, are now completely idle, and might, it is said, be purchased for almost less than the actual cost of their erection.

At the Lord Mayor's banquet, in Guildhall, this year, were served 156 tureens of turtle soup, and amongst other things served hot were 150 roast turkeys, 60 dishes of pheasants, 24 dishes of wild fowl, 24 dishes of grouse. The portion of the banquet which was served cold consisted of two huge barons of beef, a joint which is always one of the specialities of my Lord Mayor's feast, 36 pieces of ribs of beef, 280 fowls, 120 pigeon and other pies, 12 rounds of beef, 48 hams, 98 tongues, 300 lobster salads, 80 dishes of prawns, 12 galantines of turkey, and 24 other galantines. It is superfluous to add that the culinary artists employed to adorn and decorate these cold dishes executed their work with no inconsiderable degree of taste and ingenuity.

MARKETS OF THE MONTH.

At the commencement of November the weather had a depressing influence on the trade in all perishable goods, but about the 12th a change caused a firm tone to prevail in the markets, and prices ruled higher, especially in the case of game and wild fowl. The pilchard fishery, which is conducted during the months of September and October, is reported as being very unsuccessful; the fish, however, are fine, and so make fair prices, but, at the same time, last year's catch was an unprecedented one, and there was a considerable stock remaining on hand. A few mackerel occasionally appear in market, but the demand for them is not active, therefore they are sold cheap, from 3*d.* to 4*d.* each. Where does the salmon come from which our West End fishmongers sell in November? I saw some sold for 3*s.* 6*d.* per lb. in very good condition. This is the season for sprats, they were in market at the beginning of the month. We have experienced rough, stormy weather lately, and therefore fish of all kinds has been very scarce and dear, lobsters especially, which on more than one occasion were conspicuous at market for their absence. November is not the month for cheap fish.

The meat market is well supplied at about the same rates as last month, but higher prices may be anticipated when the frost arrives, and at Christmas time the lordly sirloin is in great demand, and then prices always are high. As the year advances to its close, prices in the poultry market become higher. The magnificent specimens of poultry, so eagerly demanded by the rich at Christmas time, each year become dearer, and from enquiries made I will venture to prophesy that the pampered turkey will be dearer than usual this year; the demand for gigantic specimens is on the increase, but the supply does not seem to increase in the same ratio, therefore prices which I may, perhaps, term fancy ones are sure to result. Game just now is very plentiful, and prices are lower than they were a week ago; but partridges are scarce, and make higher prices than ever before were known in Leadenhall market—old birds, 1*s.* 9*d*; young birds, 3*s.* each. Wild fowl is scarce, just at present—wild ducks making 3*s.*; widgeon, 1*s.* 9*d.*; teal, 1*s.* 3*d.*; golden plovers, 1*s.* 3*d.*; black plovers, 10*d.*; and snipes, 1*s.* 3*d.* each. Pheasants are cheaper than they have hitherto been this year, prices being

3*s.* to 3*s.* 6*d.* each; woodcock are making from 3*s.* 6*d.* to 4*s.*; black game, 3*s.*; grouse, 2*s.* 3*d.*; hares, 4*s.*; but these prices will be higher at Christmas time, for then there is an inordinate demand for all kinds of game. *

Bread is not dearer than it was last month; by the bye, the flour of this year's wheat does not make such white bread as last year's, the bran is in larger proportion, in consequence of the quality of the wheat not being so good. In consequence of open weather, cauliflower continues to be plentiful. From some cause or other which I cannot explain, there were no apricot halves and oysters in tins in the market until quite lately; now that they have arrived they are much dearer than in former years.

The large importations of potatoes from abroad have averted the disastrous effect which the universal failure in our own crops was calculated to cause; and though the best qualities rapidly find a market at double the price obtained last year, the state of affairs is not so bad as it might have been. Kent Regents may be quoted at from 8*l.* to 10*l.* per ton; Rocks and other kinds from 7*l.* to 8*l.* The importations are on a scale more than sufficient to supply the demand, and, therefore, foreign potatoes do not command high prices—from 4*l.* to 5*l.* per ton. Dunkirk, Ostend, Rouen, Rotterdam, Hamburg, Boulogne, Brussels, Bremen, Calais, Harlingen, Christiana, Gothenburg, Amsterdam, Stettin, Antwerp, Copenhagen, and even Paris, contribute their quota to our markets.

Fodder of all kinds is still cheap—prime meadow hay makes from 65*s.* to 80*s.*; inferior from 40*s.* to 60*s.*; prime clover from 95*s.* to 115*s.*; inferior from 50*s.* to 90*s.* per ton; straw is from 30*s.* to 40*s.* per load. Bacon, hams, and salted provisions are steady at last month's prices. Irish butters are making from 37*s.* to 124*s.* per cwt.; mild cured from 105*s.* to 135*s.*; fresh butter from 1*s.* 8*d.* to 2*s.* per lb. Fresh eggs from 15*s.* to 18*s.* per six score; Spanish eggs, 10*s.* 6*d.*; French, 11*s.* 6*d.* The sugar market is dull, prices rule from 6*d.* to 1*s.* per cwt. lower than last month. The tea market is slow, but there is a steady demand for Indian teas The coffee market is inactive. Really good wines are every year becoming scarcer and dearer, and in consequence of the short crop of barley in Scotland, the price of whisky is higher by 6*d.* per gallon, and Ireland is expected to follow suit.

* Since writing the above wild fowl have become cheaper, but grouse and pheasants are from 3*d.* to 6*d.* a head dearer. Woodcocks are now making not more than 3*s.* each.

The vintage in Bordeaux, both as regards quality and quantity, is reported superior to last year's, and equal to that of 1870; but in consequence of the increasing demand, prices have advanced from 30f. to 50f. per tonneau. The accounts of the vintage in Burgundy are not so satisfactory. The hop harvest this season is reported as light, and the price of finest samples has risen from five to seven per cent. From the government returns, it appears that the acreage this year devoted to the culture of the hop in England has increased by 1,900 acres.

Coals, I am sorry to say, are only a little cheaper, and as the demand just now is on the increase, I fear no reduction in price must be looked for ere the spring.

Covent Garden in December is the emporium of luxuries, and the metropolis of flowers, and I would advise all my readers, who have the opportunity, to visit it a few days before Christmas, when the market is at the zenith of its glory. St. Michael's oranges are now making from 12*s.* to 22*s.* per case; Valencias, 21*s.*; Palermo, 9*s.* per box. Small scented Mandarin and Tangerein, Egg, Malta, Blood, and various other kinds of oranges will be in market by Christmas time. Messina lemons are from 18*s.* to 25*s*; Malaga, from 25*s.* to 33*s.* per case; Almeria grapes, from 22*s.* 6*d.* to 35*s.* per cask; Egyptian dates, 50*s.* per cwt. Nuts are very dear this year — chesnuts, selected, 16*s.*; Spanish, 16*s.*; almonds, 20*s.*; walnuts, 24*s.* per bushel; Lapucai nuts, 1*s.* 2*d.*; Kent cobs, 1*s.* 6*d.* per lb. Portugal onions, from 14*s.* to 15*s.* per case. Muscatel raisins, from 80*s.* to 130*s.* per cwt.; Jordan almonds, from 1*s.* 8*d.* to 2*s.* 3*d.* per lb.; figs, Eleme, from 55*s.* to 74*s.* per cwt.; Normandy pippins, 95*s.*; Normandy pears, 80*s.* per cwt.; hothouse pines, 8*s.* to 9*s.* per lb.; black grapes, 2*s.* 6*d.*; white muscats, 7*s.* to 8*s.* per lb.; melons, from 7*s.* to 8*s.* each; Spanish, 1*s.* 9*d.* to 2*s.* Besides these there is a gorgeous display distracting in its variety of foreign fruits, the produce of every clime, which seductively exhibit their charms to the gaze of the visitor. There are also French plums, and preserved fruits in boxes, and vegetables natural and unnatural, amongst which I would draw attention to seakale and imitation new potatoes, as being fit satellites to attend the advent of the lordly Christmas turkey. Seakale is making now from 2*s.* 3*d.* to 2*s.* 6*d.* per punnet. Apples, rosy-cheeked, and luscious pears also have a claim on consideration at this season, but prices vary according to size and quality. Good cooking apples are worth 12*s.* per bushel; dessert pears, from 3*d.* to 9*d.* each.

P. L. H.

NOTES OF THE MONTH.

THERE is now no doubt whatever that the present will be the worst potato year we have had for some time. Accounts, alike from Scotland, Ireland, England, and Wales, all agree in accepting as a foregone conclusion the almost entire destruction of the potato crop. In some districts, the crop is an utter failure; in others, one bushel in ten is esteemed a fair average of sound tubers; and the places where the disease has not worked fell ruin amongst the tubers, are few and far between. Isolated instances are related of fair results, it is true, but, in the main, the crop is an utter failure. In view of the increasing dearness of all the necessaries of life, this is a terrible prospect for the poorer working classes, whose diet is composed, to a considerable extent, of potatoes. And there cannot be the smallest shadow of a reason to hope that the result will falsify anticipations; for, already, the plague has worked disaster sufficient, and if dry weather should set in, there is nothing to hope from it except the preservation of the few sound tubers left. Even now, where the potatoes are being dug up, the effects of the disease are so evident as to completely banish hope. Growers find that but one bushel in ten, on an average, is saleable, and the price which good sound potatoes readily make in our markets, sufficiently exemplifies the state of the case. Even 10*l.* to 12*l.* per ton was lately obtained, and this is more than double the price at the commencement of the season last year. Should wet weather continue, good sound flowery potatoes will be completely *non est*, and even under favourable circumstances, the crop must be considered an utter failure. It has been remarked, that it is nearly suicidal policy to leave the diseased tubers to rot on the ground, and so, in a latent state, to leave the germs of the disease to propagate in the soil, and, also, that growers too frequently plant seed from crops which have shown, only slightly, perhaps, signs of disease. Were all the diseased tubers carefully removed from the soil, and seeds selected from crops which were entirely free from disease, it has been suggested that favourable results would follow. As it is, we sow potatoes which have previously shown signs of disease; and can we expect but that as we sow so we shall reap? Pure seed planted on virgin soil would surely be less liable to disease, although, in time, it also might

become contaminated from surrounding associations. For the disease is a blight, a fungus which grows on the potato, and unless we accept the theory of spontaneous development, there must be in the ground, or in the seed, the germs from which it springs. At all events, we can, by care and circumspection, at least, minimise the development of the pest, although we cannot control the seasons. The best sorts would appear to be more liable to disease than inferior kinds. The disease flourishes in wet swampy districts, but on high land, a continuous period of wet weather is essential to its appearance in a virulent form. We feed swine with the diseased potatoes, and afterwards, carefully return the germs of the disease to the soil again, in the shape of farm-yard manure. Is this wise? Would it not be best utterly to annihilate, by means of fire, the diseased crops, and carefully to sow seed which has never shown a symptom of disease. But we must, for the present, find a substitute for the potato, and this we have, cheap and good, in the form of rice. Rice may be made into excellent savoury food, and may be cooked in an almost infinite variety of ways. We need not starve.

The heavy fines to which we drew attention in our last issue, as having been imposed on certain milk dealers of Dublin for carrying on an almost undisguised system of adulteration, do not appear to have had any deterrent effect, judging from the police records of the past month. In one day's magisterial sitting, five milk adulterators were relieved of cash, in fines and costs, amounting to 54*l.*; and the penalties, in one month, on the dairymen of that city and county amounted to 91*l.* The adulteration consisted principally of an admixture of from 50 to 60 per cent. of water with the milk; but Mr. Robert Hudson, of Bath Street, who was fined 10*l.* and 2*l.* costs, modestly ventured to double the quantity of the article by adding 100 per cent of water. These cases were brought under the new Adulteration of Food, Drink, and Drugs Prevention Act, by which a maximum fine of 20*l.* may be imposed when an article has been adulterated with innocuous ingredients only; but, when hurtful compounds are used as adulterants, the convicted vendor may be sent to prison for six months with hard labour. Some of the defendants to whom we refer, made pitiful appeals to the bench on the grounds that, "They could not pay the fines, and that their families would be a burden on the rates." But for the sheer audacity of such an appeal, it would be refreshing to consider how

deeply concerned these tamperers with the people's food are for the comfort and the pecuniary interests of the ratepayers. Happily, however, for the public, the presiding magistrate was proof against this attempt to excite his sympathies. His Worship said he thought it better that such people should suffer than the public be defrauded, and he expressed a hope that the penalties then inflicted, would teach those who followed the practice, the folly and expense of adulterating milk. It is gratifying to find that the authorities of the capital of Ireland have taken the matter up with such a high hand; and it cannot be too widely known that the consumer in all towns in which an analyst is appointed, can, at least, be supplied with the article for which he bargains, if he will only avail himself of the facilities for test which the legislature has provided.

It is, to say the least, a very suspicious circumstance, that concurrently with the convictions above referred to, the Dublin Dairy Proprietors' Association have raised the price of milk from 4*d.*—at which it was fixed on the first of the previous February—to 5*d.* per quart. The reasons given, were that the price paid was not sufficient to keep pace with the high rate of labour and the increase in the value of dairy stock. One of the speakers at the meeting, added the foot-and-mouth disease to the catalogue of their grievances, and went in for a sixpenny tariff; while, as a set-off, another dairy proprietor said that, "From the frequent prosecutions of many milk sellers, and the consequent disgrace heaped upon the entire trade by the press, he felt shy in demanding a further increase from the public." Others, as we have shown, were not afflicted with their brother dairyman's shyness, and 5*d.* per quart was struck as the happy medium between 4*d.*, and one dealer's modest agitation for 6*d.* Against the alleged causes for increase, it is urged that fodder is fully one-fifth cheaper than at this time last year; hay is most abundant, and at a low price; the aftergrass has been unprecedentedly luxuriant and plentiful; straw is unusually cheap; wash and grains have not increased in price; and Ireland never had so plentiful a crop of turnips and mangold. As to the high rate of labour spoken of, the operation of milking cows is almost universally performed by women, whose wages are low, compared with those of men; 1*s.* or, at most, 2*s.* each weekly, would cover all the increase of wages the men employed about the cows have claimed. As to the alleged rise in the price of milch kine, one agricultural writer maintains that the rates are

absolutely less, by at least 10 per cent., than they were five months ago; and, with regard to the cattle disease, it has, as yet, but rarely appeared in a virulent form, and certainly to a very limited extent. If these statements be correct—and we have them upon an authority capable of forming a reliable opinion—the dairy proprietors should in all fairness have reduced the price of milk, instead of increasing it. Under any circumstances, it is difficult to see why there should have been an increase, and, whether with or without cause, the public will not be slow to attribute it to the action of the authorities who are surrounding the adulterators' trade with so much risk, that honesty, however unpalatable to milk dealers, must be observed. They must learn to eschew water, and sell milk; if they still entertain a lingering hope that the profits upon adulteration may counterbalance the penalties of detection, let us hope that the full fine of 20*l.* may be imposed. Failing a cure by a resort to that extremity, it will not be too much to ask the legislature to substitute imprisonment with hard labour in the case of incorrigible offenders; and, judging from the antecedents of the Dublin bench, that body, at least, would not be slow to test its efficacy.

A Medical correspondent of *Notes and Queries on China and Japan*, vol. iii., p. 117, makes the following observations upon the subject of Chinese Medicines, which was briefly noticed in the *Food Journal* for November:—

"The medical practice of the Chinese at the present day finds its exact parallel in that of Europe two centuries ago. The shrewdness of Chinese observers has guided them to a few of those happy anticipations which art has often made in the marches she has stolen upon science, under the force of fostering necessity. Under the name of *Chum-pi*, the Chinese *Pen T'sao* describes the method of preparing the 'dried membrane' lining the gizzard of the fowl. It presents a wrinkled or plicated appearance, is yellow or brownish in colour, brittle in texture, and has usually portions of the grain eaten by the birds while alive still adhering to it. It is recommended in disorders of the stomach, bowels, and urinary organs, and in infantile remittent fever. At first thought, one is disposed to imagine that here we have one of those nasty doses which the Chinese love to concoct out of 'every creeping thing that creepeth on the earth.' In the *Pharmacopœia* of the Royal College of Physicians, London, published in 1721, there appears an article described as *pelliculæ stomachi gallicæ interiores*. This is, of course, nothing else than the Chinese preparation just described. It was ejected from the edition of the *Pharmacopœia* published in 1746; it was the last remnant of a host of unpleasant remedies, such as the coagulum taken from the stomachs of leverets and lambs, *stercus bovinus*, *ditto parvonis*, etc., which distinguished or disgraced the pharmacopœias of the 17th or 18th centuries. All these remedies were supposed to act as solvents or digestive agents. They were,

in fact, anticipations of the great discovery of pepsine, that peculiar principle which is now extracted from the lining of the stomachs of calves, sheep, and pigs. The experiments of Spallanzani, pointed out the powers of the gastric juice; and whilst the Italians were experimenting with crows, the Chinese (who it is to be presumed never heard of these experiments) turned the inevitable fowl to account, by drying the membrane which secretes and therefore contains the pepsine, of which our French neighbours now make so much."

Probably many of the repulsive nostrums compounded of the flesh of snakes, lizards, etc., alluded to in our previous note (p. 389), may have originated in a similar vague perception of the restorative properties resident in certain animal preparations, as in fish-oil, edible snails, and the like.

Apropos of Chinese Fish Culture:* The annexed particulars from the pen of a good authority, Mr. Mayer, in the same periodical, may be of interest:—

"The belief that gold-fish have been kept in confinement from a very ancient time in China is well founded. All Chinese treatises on natural history contain references to the subject. Some Chinese writers assert that they were first so kept in the time of the Sung dynasty, A.D. 960. A Chinese work compiled early in the 17th century, and printed in 1664, contains a chapter devoted to 'the management of gold-fish,' in which is the extraordinary statement that gold-fish with triple and quadruple tails are produced by covering the spawn when dropped with a large prawn; if there be no prawn the tails will be of the ordinary kind. Another Chinese writer of the 10th century, mentions fish rearing as having been the source of the riches of Fan-Li, the Chinese Crœsus, B.C. 474; a fable doubtless, but one that shows the early practice of the piscicultural art by the Chinese."

"Life in the Sugar Bowl," is the appropriate title of a suggestive article, headed by the magnified portrait of a most repulsive looking insect, which appeared in the *North British Daily Mail* of the 15th ult. Having recently exposed the nature of the rubbish sold in Glasgow as tea by some of the unprincipled tradesmen there, our contemporary has very properly turned its analytical eye on the sugar retailed to the poor at from 3½*d.* to 6*d.* per lb. Although out of 36 samples examined the analyst "failed to detect proofs of adulteration," yet impurities of several kinds were found; among which were woody fibre, vegetable albumen, starch granules, chloride of sodium, iron, carbonate of lime, and "innumerable *acari* and their eggs." In short, 11 samples were grossly impure, and seemed to be little else than charnels and hot-beds of insect life; of 14 it could only be said that they were free from *acari*; of 9 that the impurities were grape sugar, chloride of sodium, and water; whilst only 2 were pronounced "absolutely pure sugar." The *acarus sacchari* is a horrible looking insect which infests

* *Food Journal*, p. 367.

common raw sugar. When we mention that it is allied to the *acarus scabiei*, of loathsome notoriety, enough is surely said to wean such of our readers as may still persist in the use of unrefined sugar from a mistaken belief in its superior sweetness. Judging from the other impurities stated to have been found in the Glasgow samples, we are afraid, notwithstanding the failure of the analyst of the daily paper quoted to detect proofs of adulteration, that some clever roguery has been at work. It is well known that a cheap imitation of grape sugar is produced on the continent of Europe (it is illegal in this country) by treating starch with sulphuric acid, which is extensively used for ordinary sweetening purposes, for distillation, and for the adulteration of the more valuable cane sugar. The same treatment, spread over a longer period, produces a similar sugar from saw-dust, paper, or rags, which, however, does not readily crystallise. Grape sugar, figuring as it does in 34 out of the 36 samples alluded to, would seem to give countenance to our idea, and ought to sharpen the faculties of the excise officers in the north.

Last month we called attention to the success which had rewarded the efforts of Mr. Taylor to produce high-class tea at Loola Condera, in the island of Ceylon. Since then we are pleased to gather from the *Ceylon Observer*, that Mr. Jenkins has likewise met with great encouragement in the same line, some of the tea prepared by him having been valued by Calcutta brokers at 2*s.* 10*d.* per pound, London value, in bond. But probably a more cheering feature still, especially to those connected with this most interesting island, occurs in the address of the governor, the Right Hon. W. H. Gregory, at the opening of the session of the Legislative Council on the 25th September last. He says:—

"I am informed that samples of tea grown on the estate of the Ceylon Company have been tested by competent authority, and have been pronounced to be of such quality as to warrant a more extensive cultivation of the plant. If the experiment of tea planting be a success, it will be an important adjunct to coffee. It will enable the planter to find continuous work for his labourers, and will bring into cultivation large tracts, *which are generally considered to be too high for coffee.* In order therefore to give every encouragement to the opening of fresh industries in this island, I have informed the Planters' Association that, if they consider the service of two experts in the manipulation of tea would be of use to the growers, I shall move the government of India to send here two such persons for a couple of years; they can be stationed at Hakgalla, and instructed to give information and assistance to the planters."

Whilst congratulating the planters on this promised boon, and on the improvement which successful tea cultivation and manipulation cannot fail to effect in their commercial prospects, we would re-call

to the memories of our readers the fact that in the opening number of the *Food Journal*,* one of our contributors concludes an article with the words:—

"Judging from Mr. Ward's remarks on coffee cultivation in Sumatra, from what we know of China and Assam tea, and our information as to the climate of Ceylon and the East, we believe that in order to obtain the best results, the Ceylon valleys should be devoted to coffee leaf culture, the lower slopes of the hills to the berry, while China tea might be *grown above the line of coffee cultivation.*"

Nearly three years having elapsed since the above suggestions were offered, there seems little need to doubt the caution of the Ceylon agriculturists in the adoption of anything new; yet a word of advice may not be out of place. The soil for the commercial success of the tea plant, Indian experience informs us, ought to be rich and deep, and the subsoil light and porous, so that the long tap root may penetrate without injury, and obtain the necessary moisture for its luxuriant growth, thus rendering it, to a certain extent, independent of surface irrigation. Should the site of the plantation contain much or even a moderate proportion of iron, the crop ought invariably to be converted into some form of black or red leaf tea, such as Pekoe, Congou, Souchong, and Caper; if but slightly impregnated with ferric salts, or altogether unferruginous, Young Hyson, Gunpowder, and the inferior grades of green tea ought alone to be attempted. By attention to such points; the employment of skilled managers who not only have an intimate acquaintance with tea in the home market, but have made themselves practically familiar with the Chinese methods of growth and preparation; and by the use of approved machinery whenever it can be successfully applied to supersede human labour, we see a brilliant future in store for the tea industry of Ceylon, such as Assam and most parts of India can scarcely hope to reach, never to surpass.

* Coffee Leaves *v.* Tea leaves. *Food Journal*, No. 1, February, 1870, p. 11.

TRADES UNIONS AND THE PRICES OF FOOD.—A pamphlet entitled "Trades Unions and Strikes: what have they done for us? By a working man" (Straker Brothers & Co., London), contains many telling facts and arguments showing that the action of trades unions, in forcing up the rate of wages to an unnatural pitch, has tended to enhance considerably the price of food and fuel, and has thus created great hardship among the middle and working classes. These facts are well known among the working classes, and to their cost too, but they do not like to admit that they are mainly caused, as the writer of this pamphlet clearly proves, by their own trade unionism.

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

MACARONI PUDDING.

Take the Genoa form or Naples pipe, place in boiling water, boiling from 15 to 20 minutes; strain off water, and place macaroni in a hot dish; take three eggs, beat up, adding lump of fresh butter, nutmeg, and white sugar, according to taste; pour in cold milk; beat up all together; when thoroughly mixed, add boiling milk. Take macaroni, place in basin, cooking same in a slow oven. This pudding iced is delicious in hot weather. The Anglo-Italian macaroni, on account of its freshness and sweetness, would be generally preferred.

MARMALADE PUDDING.

Half lb. of suet, ½ lb. of bread crumbs, 7 oz. of sifted sugar, and 1 lb. of marmalade. Mix well with four eggs, and boil for four hours.

HALFPAY PUDDING.

Four oz. of each of the following ingredients:—suet, flour, bread crumbs, currants, and raisins. Two tablespoonfuls of treacle. Mix it well with ½ pint of boiling milk, and boil it in a mould for four hours. An economical pudding when eggs are scarce.

GINGERBREAD PUDDING.

Half lb. of flour, ½ lb. of suet, ½ lb. of treacle, and a little grated ginger; mix with milk, and boil for four hours.

PORT WINE JELLY.

One oz. of isinglass, and 1 oz. of gum arabic boiled in ½ pint of port wine; add a little cinnamon, and sweeten to your taste; dissolve the gum first, and when all is dissolved together strain it through a muslin bag. An excellent jelly for invalids.

MY GRANDMOTHER'S RECIPES *(continued)*.

TO PRESERVE GOOSEBERRIES.

To a pint of split red gooseberries put ¾ lb. of lump sugar. Boil them up well together, taking the scum off as it rises.

TO MAKE A SPONGE CAKE.

Seven eggs (leave out two whites), beat them well, ¾ lb. of lump sugar, a ¼ pint of water. Boil the water and sugar, then skim it, and put it to the eggs boiling hot. Beat it half an hour with a whisk, then put to it ½ lb. of flour. Stir it up and bake it.

A HOLLAND SISTER.

Take six eggs, beat well, 1 lb. of flour, ½ pint of milk warm, ¼ lb. of butter clarified, half a spoonful of good yeast, and a little sugar. After it is beat together let it stand at the fire till it rises, then butter your pan and put it in immediately. The oven must not be too hot.

THE

FOOD JOURNAL.

INTERNATIONAL EXHIBITION, 1873.

It is satisfactory to observe that those classes of next year's Exhibition with which the *Food Journal* is specially concerned, promise to assume great importance.

The Committee of Advice and Selection for the class of Cookery and its Science, has held three meetings at South Kensington, under the presidency of the Hon. F. Leveson Gower, M.P., and resolutions to the following effect were carried:—(1) That cooking for agricultural labourers, the various sections of the middle classes, the army and navy, and also that for paupers and prisoners should be illustrated as completely as possible—(2) That some of the principal makers of kitchen ranges, stoves and apparatus, should be invited to exhibit apparatus in action, and—(3) That an attempt should be made to represent the various modes of cooking practised by the French poor. A preliminary list of cooking processes having been laid before the committee, it was determined to print it and circulate copies, in order to obtain suggestions for the preparation of a detailed list of dishes which it was desirable to place before the public during the Exhibition. Lastly, a recommendation was received and recorded by the committee to the effect that Her Majesty's Commissioners should provide a kitchen with an adjacent refreshment room, set apart for the sale and consumption of those dishes prepared by the advice of the committee, and that competent superintendents of cooks should be engaged for the purpose.

In the above we find no notice of one of the most important questions of the present day, especially for families of small and moderate means, namely, how to prepare "tinned" meats and other preserved provisions in the most economical, agreeable, and wholesome forms. Considering the importance of this subject, we have no doubt it will receive special attention.

With respect to the mention of the cooking of the French poor, it may be remarked that French cookery is a system equally applicable to the poor and the rich. The best knowledge that the commission could import from France under the head of cookery would be, not that which applies to the cooking for any one class or other, but the *modes* of carrying on the various operations, such as boiling, roasting, stewing, frying, and the preparation of gravies and sauces. The differences between dishes for the poor and dishes for the rich consist in little more than the greater or less cost of the ingredients and condiments, and the lavish or careful use of butter, etc. For instance, the cooking of vegetables is almost identical in all classes, and to teach English women how to make the most of garden stuff would, indeed, be a valuable lesson. The treatment of dairy produce in the various forms of *omelettes, œufs sur plat, fromage à la crême*, and the hundred other light dishes of the French *cuisine*, many of which have been given by competent hands in the columns of the *Food Journal*, would form an attractive as well as a useful exhibition.

The Grocery, &c., Committee sits at the Society of Arts, and is composed of men eminent in various branches of trade and in science, and there is little doubt that the exhibition of colonial and foreign products will be large and fine, and that some interesting processes will be included in the class.

The committee for the sub-division of drinking vessels, and pipes, etc., used for tobacco and other narcotics, has also met, and, amongst other things, discussed the limits of its province so as not to encroach on the classes of glass, goldsmiths' and other work, to be represented in future exhibitions, the object being of course to show useful or peculiar forms, and not elaborate and costly workmanship. A sub-committee was appointed to advise on the formation of a display of ancient vessels, etc., contributions of the kind having been offered to the committee. A curious report on this subject has been drawn up by M. Berger, and is published in the *Journal of the Society of Arts* of the 13th of December, 1872.

The food division would scarcely be complete unless something were done to aid the public to form a better opinion than they are enabled to do at present respecting the purity, or otherwise, of articles of food. To carry out such a scheme completely would be impossible, but good service might be done by exhibiting pure specimens, such as had been analysed by competent chemists, of many commodities in ordinary use, which, by colour, crystallisation or granulation, would offer, as it were, standards of purity to the

eye. Some forms of analysis, such as that by means of the microscope, might also find place amongst processes; we have little doubt that some of our scientific friends would aid the committee in letting the public into a few of the secrets of adulteration, and, which is still more important, in teaching many a sharp pair of eyes to discriminate between falsified and pure articles. We do not advocate the exhibition of flagrant examples, except in a few flagrant cases, such as milk which contains 50 to 80 per cent. of water, butter that never came from cream, and tea that has no claim to the name; a *hortus siccus* of real and false tea leaves would be an object of easy achievement.

ONE HUNDRED AND SIXTY YEARS AGO.—The prices of what were luxuries in 1709 may be ascertained by means of the following advertisement from the *Daily Courant*, March 21, 1709:—"For the benefit of retailers. Coffee roasted at 6*s*. 4*d*. a pound, never better us'd. Bohee tea at 16*s*. a pound (except the Bohee tea per ship Loyal Bliss), none equal to it. Bohee tea at 12*s*. per pound that exceeds most that is sold at 20*s*. per pound; and variety of green tea, with encouragement in proportion to the quantity. Sold by Robert Fary, Druggist, at the Bell in Gracechurch Street." In Queen Anne's time druggists sold tea and coffee; Bohee was almost the only kind of tea imported; 20*s*. a pound, many years after this, was the price of tea bought for Pope's "Belinda." A few days after the above appeared, the same dealer offered "clean Jesuite bark, a good sort, at 3*s*. a pound, till this time generally at 6*s*. a pound." If his "Bohee" was not better than his "Jesuite bark" was likely to be at 3*s*. a pound, it would not have suited Mr. Isaac Bickerstaff, notwithstanding that that gentleman would probably "lace" his tea with a good deal of brandy, especially if he took it in the morning, the only part of the day when it is conceivable he would take tea at all.—*Athenæum.*

FRENCH VINEYARDS.—M. Armand writes very despondingly to the Académie des Sciences as to the disastrous increase in the ravages made by the philloxera among the French vineyards. He feels persuaded that in a few years' time the whole of the vines in Provence will have disappeared, unless some means of destroying the insect can be discovered. M. Cornu, who has been despatched into the Bordeaux country by Government to report on the increasing damage caused by this scourge, declares that in nearly all the vineyards which run down to the river banks the plants seem to have dried up, and that the vineyards in other situations have been attacked in such a way that the devastation is circular in shape; whence the expressive name of "oil spots," which indicates that the malady has spread from the centre to the circumference. The philloxera has not confined its attentions to the vine, fruit-trees everywhere in the same neighbourhood having also suffered. It is agreed that as no remedy for the evil has yet been discovered, the wisest plan would be to trace it back to its place of origin in America, with a view to investigating by what process its excessive multiplication can be prevented.—*Pall Mall Gazette.*

RAILWAYS AND THE FISH TRADE.

THERE is every probability that the lamentable scarcity and dearness of fish in the metropolis will ere long become a thing of the past. In the application wisely made to Parliament by the Corporation of London, it is proposed to take powers for the formation of tramways from the Great Eastern Railway to Columbia Market, as well as to use locomotives on these tramways, and on those authorised by the Act of 1871. Should these powers be obtained, which there is every reason to anticipate, these grand improvements will in themselves materially increase the supply of fish to the metropolis, but other changes in the locality will have a further effect in the same direction. The existing terminus of the Great Eastern Railway will shortly be converted into a goods station, and thus there will be ample accommodation for an enormous and continuous reception of fish, while the present arrangements of Columbia Market are so good, and so susceptible of adaptation to an expanding trade, that the rapid distribution of the supply will be a matter of certainty. Comparative cheapness and augmented consumption of nutritious food by the poor of London will be inevitable consequences.

That these results may for a time be injurious to the vested interests of Billingsgate is probable enough, but that there will be any permanent injury to that venerable institution is by no means certain. There is ample scope and verge enough for two great fish markets in London—for three or four, for that matter—with a *clientèle* of three millions and a half, besides which large quantities of fish are now sent off by rail to various parts of the kingdom after arriving in London. Still larger quantities will be thus dispatched when railway communication between the head quarters of supply and the chief market for distribution is perfected. But there will be plenty of trade for Billingsgate. It now commands the West End and the City trades at high prices, and it will continue to do so to a large extent, despite all the improvements in the neighbourhood of Shoreditch, though prices may be somewhat lowered—and if they are, so much the better. But Billingsgate is essentially, and from its situation, behind the times. Established at a period when railways were not dreamed of, it is best adapted to the water-borne fish trade, and is not in a

position to avail itself of the full advantages of railway communication. Now the land carriage of fish is incontestibly superior to any mode of water conveyance, the speed and regularity of the former being of infinitely greater consequence than any advantages that can be claimed for the latter. At the very least, two-thirds of the fish supply of London now come by rail, and this fact in itself proves the necessity of direct railway connection with some market or other. That this is impracticable in one case is no reason why it should not be effected in another. Billingsgate would never have retained its practical monopoly had any other large fish market existed in the metropolis with continuous communication with the Great Eastern, or even with the South Eastern Railway. The advantages of rail and tramway will in all probability make Columbia Market a great success, while the trade of Billingsgate will be somewhat modified, but far, very far from ruined. The old market will, doubtless, be able to hold its own, and we hope it will. The error lies in trying to make it hold what is not its own—that is not only all the fish that now comes to London, but all that, with free trade and railway facilities, might be brought here. Its failure to accomplish the task even as it now stands is told us every now and then in a very unpleasant style. During the month of November, for example, the meters appointed by the Fishmongers' Company seized, at and near Billingsgate, and on board boats lying off that market, upwards of 33 tons of fish. The zeal and rigid justice displayed by this Company deserve high praise, but in our admiration of these we should not lose sight of the facts that necessitate them. The delays that frequently occur in conveying fish by smacks and cutters, even supplemented by Hewitt's screw steamers, as well as the perils, difficulties, and delays of the overland passage from any railway station to Billingsgate, amply account for so much fish having to be destroyed. In this respect also the proposed tramway to Columbia Market will be a great boon to the public, as it will not only result in increasing and forwarding fish, but largely diminish its deterioration after consignment.

J. M. PHILP.

WINTER CLOTHING.—In his experiments to determine the heat-conducting power of linen, cotton, wool, and silk, Sir Humphrey Davy found not only that these materials conducted heat in the order given above, linen being the best, but also that the tightness or looseness of weaving possessed an important influence. It is therefore evident that in the selection of winter clothing, and especially of that to be worn next to the skin, the materials of least conducting power, as wool and silk, should be chosen, and the fabrics should be loosely woven.—*Good Health.*

BREAD.—No. 3 (CONCLUSION).

A DOZEN years ago a laudable effort was made by Mr. Stevens, a master baker, of Hackney, to improve the physical and moral condition of the operative baker. With this end he invented and patented an ingenious machine for kneading dough, which altogether dispensed with hand labour, so far, at least, as the process of what is technically termed "mixing" is concerned. It is rather inexplicable that such a machine had not been invented some centuries previous, but still more surprising that, having once been invented, it is not universally used. Notwithstanding the unquestionable advantages of machine over hand labour, especially in the manufacture of bread, scarcely a score out of nearly three thousand master bakers in the metropolis bring this humanising agency into requisition. What more striking proof could be cited of the desperate tenacity with which men cling to old systems and preconceived, prejudiced opinions?

Merely on the grounds of health and cleanliness, machine-made bread must be considered preferable to that manufactured by hand. But the new system of panification offers several other important advantages. The bread thus produced is superior in quality, whiter in colour, sweeter to the taste, considerably more substantial, and less liable to waste by crumbling than that formed by the ordinary process, while it creates a saving of bread-material to the master baker of nearly 12 lbs. on a sack of 280 lbs. The machine being enclosed while in action, prevents the farinaceous matter from wasting, and thus dispenses with "sweepings," as none are made. The "sweepings" of an ordinary bakehouse are considerable. When we consider that flour costing from 47*s.* to 50*s.* per sack is re-sold in an impaired condition for 12*s.* per sack, the loss must be somewhat serious; to compensate in a measure for which, as well as to remedy imperfect trituration, adulteration is frequently and freely resorted to. Although the bread machine produces a great saving of labour—inasmuch as the mixing process is performed more thoroughly and quickly thereby—nevertheless it does not operate injuriously against the journeyman; a similar number of "hands" being required in those bakehouses where machinery is adopted as where hand labour is exclusively employed.

Dr. Dauglish's improved and scientific mode of bread manufacture is denominated the "aërated" process. This system bids fair to entirely revolutionise the baking trade. It is well understood that the formation of good bread mainly depends upon a chemical transformation of its constituent properties. Originally, mankind prepared their corn by simply boiling it, thus forming viscous cakes—a food anything but palatable or digestible. In course of time it was discovered that flour mixed with certain quantities of warm water and yeast produced an alcoholic and panary fermentation, which not only destroyed its viscidity, but rendered it light, wholesome, and easy of assimilation, when properly triturated, exposed to prolonged warmth, and subsequently baked. A similar process of preparing the "sponge," although necessitating from eight to twelve hours' labour, continues in general usage at the present day. Dr. Dauglish's system entirely dispenses with an obstruction so formidable and yet so unnecessary, in the production of our "daily bread." The generation of carbonic acid gas, by means of fermentation, imparts to the sodden lump of flour and water a vesicular character, while it effects a transformation in the starchy and saccharine properties of the flour itself. By the new process, carbonic acid gas is artificially produced, then stored in an ordinary gas holder, and finally pumped into a cylindrical tank of water. This chemically charged water is subsequently mixed, under pressure, with the flour, when "dough" is produced. After having been kneaded by the arms of the iron "mixer," from five to ten minutes, it is divided into loaves, placed in shapes, and duly baked.

The alleged advantages of the new method of bread making consist—first, in the cleanliness of the process; secondly, in the rapidity with which flour and water are formed into bread; thirdly, in preserving the flour from deterioration, which it notably undergoes during the fermenting process; fourthly, in producing certainty and uniformity in the production of good bread, and obviating the vagaries and irregularities to which the old system is frequently liable; fifthly, in rendering the bread thus made more wholesome and digestible—it being admitted by eminent chemists that the *débris* of the yeast is more or less constitutionally injurious; sixthly, in effecting a pecuniary saving, the cost of carbonic gas being considerably below that of yeast; and, finally, in superinducing immense economy of labour and health, while it changes bread-making from a domestic manual toil to manufacturing machine work, and transforms operative bakers from mere human over-driven drudges into intellectual and healthy labourers.

The honour of having first made wheaten bread was claimed by the Athenians. According to their mythological story it was they who taught the use of it to mankind. In the historical age *gourmands* considered the common wheaten bread made in Athens superior to any in all Greece. This, indeed, formed the staple article of food for the large population of Attica, which, in prosperous times, numbered 520,000, inclusive of the slaves, who formed four-fifths of the community. About 600,000 quarters of wheat were consumed annually. A goodly portion of this was imported from foreign countries, especially from the Black Sea,*—according to Strabo, the Tauric Chersonese, now known as the Crimea, with which this nation has, unfortunately, made unpleasant acquaintance, and which is fraught with sorrowful no less than with glorious recollections.

I shall conclude my "papers" on bread by mentioning a few of the ancient and modern practices to which this indispensable article of food has given rise; showing, moreover, how the elements of Pagan superstition still linger amongst us, and are even inseparable from Christian rites. It was once customary in several parts of England for persons in affluent circumstances to distribute "Soul Mass Cakes" among the poor. In return for this charity the recipients were bound to repeat the couplet—

"God have your soul,
Beens and all."

These cakes were large and of triangular shape, and had to be eaten on Allhallow's night.

A similar observance obtained at burials, when *arvil-cakes*† were distributed with profusion. The North of England folk were most addicted to the practice, so that Morésin, referring to these entertainments, remarks "that to bury a dead wife cost as much as to portion off a daughter." This practice is clearly traceable to the Greeks, who, on the decease of a person, were wont to give a supper-entertainment known as *perideipnon*, to which Cicero applies the term *circompotatio*. Dr. Chandler, in his "Travels in Greece," describes a funeral entertainment amongst the natives of that country. He observed two persons follow the body "carrying on their heads each a great dish of parboiled wheat," which was "deposited over the corpse." In harmony with this custom St.

* "Economie Politique des Romains," par M. Dureau de le Malle.

† This word occurs in the provincial poem entitled "Yorkshire Ale":—

"Come bring my Jerkin, Tibb, I'll to the *Arvil*,
Yon man's ded seny scoun, it makes me marvill."

Gregory asserts that it was a rite approved of by the Eastern Church to set boiled corn before the singers of the holy hymns which were chanted at the commemorations of the dead. This Father interprets the ceremony as being significant of a future life.*

A particular charm has, for some indescribable reason, been connected with corn when made into the form and consistency of bread or cake. Cowel, in his "Law Dictionary," defining the word *Kitchell*, observes: "It was a good old custom for godfathers and godmothers every time their godchildren asked their blessing to give them a cake, which was a God's-Kitchell. It is still a proverbial saying in some counties, 'Ask me a blessing and I will give you some plum cake.'"

A curious and certainly a rare book was printed in London, A.D. 1537. It is entitled "A Werke for Householders, by a professed Brother of Syon." Therein mention is made of a charm then in vogue as a specific for all disorders. This is the quaint description:—"The Charmer taketh a pece of whyt Breade and sayth over that Breade the Pater Noster, and maketh a Crosse upon the Breade, then doth he lay that pece of Breade unto the Toth that aketh, or unto any Sore tournynge the Crosse unto the Sore or Dysease, and so is the persone healed." I wonder if nostrum-mongers made such fortunes in those days as they do in modern times? Again, in Herrick's "Hesperides," we have a recipe for keeping off spectres of the night:—

> "Bring the holy crust of bread,
> Lay it underneath the head;
> 'Tis a certain Charm to keep
> Hags away when children sleep."

It is strange how far back we can trace certain modern observances. Even a prophet had to reprove the Israelitish people for following superstitious practices: "Seest thou not what they do in the cities of Judah and in the streets of Jerusalem? The children gather wood and the fathers kindle the fire, and the women knead the dough to make *cakes* to the queen of heaven,"† etc.

S. PHILLIPS DAY.

* Greg. Opuscula. London, 1650.

† Jeremiah vii., 18.

WORKING POWER.—In the case of the horse, the working power is got out of plants; in the case of man it is derived from a mixed animal diet. Yet such a diet is not essential to a man. The miners of Chili, who work like horses, live nearly like them; for, two loaves in the morning, boiled beans in the day, and roasted grain at night, constitute, according to Darwin, their ordinary food.—*Lyon Playfair.*

GREEN RUIN.

THE purification of a venal and mendacious press, the re-organisation of a beaten army, the gratuitous and obligatory instruction of an obstinate and avaricious peasantry, would appear to the hasty observer to constitute a pretty extensive programme even for a French political reformer of advanced principles. It is not considered so on the other side of the channel. The triumphal return visit to Berlin is to be prepared for by the eradication of several other abuses, the cleansing of the future conquerors' race from a variety of imperfections, and chiefly from those created by the introduction of German and British habits into France (several French writers, notably MM. Sarcey and Legouvé, I think, have traced the national degeneration to the influence of English and German beer!) The *luxe effréné des femmes* is to be preached against and counteracted by example; public worship of the Offenbachian tenth muse, *la cascade*, is to be strongly reprehended; and finally, the spiced and titillating meats and wines of a Sybaritic Cæsarian era are to be replaced by pure Republican simplicity. Rabagas bids the world behold that plain steaks and his own meridional *cru* suffice him. The democratic journalists of the *cafés de Suède* and *de Madrid* only call for *bocks* of Dreher's Vienna beer—or, refinement of patriotism—for the thin Strasbourg abomination, the greatest triumph of cheap nastiness, save and except Belgian *faro*. It is specially in the matter of potables that the regenerators are most eloquent and busy. They clamour for a return to the old Gallic and Frankish regimen; to the days when the wine-producing province drank wine and nothing else; when the hop countries imbibed beer exclusively; when Normandy refreshed itself with cider and perry, and had never heard of "eye-openers." They are partly right. In France—can it not be added, in England?—a mania has arisen for foreign compounds, for subtle and strange mixtures, perfectly appropriate to the land of their origin, but not seldom decidedly harmful to Cockneys and Parisians. Kirsch, *eau de Dantzic*, Martinique liqueurs, mint julips, pawnee, gin slings, brandy smashes, and mineral waters of every kind, are regularly on the wine lists of the "nobility and gentry." A few of the present generation may live

to be offered a glass of the Mantchoo Tartar's "lamb wine," Batavian arrack, or Chinese rice wine, in the clubs of their great grandchildren. French reformers predict such evils from the fact that the search for novel sensations, for the *raffiné*, the perilous and unwonted in amusements, refreshment, and study, is becoming more and more eager every day. At the root of it all they profess to perceive the mania for absinthe drinking; the determined and daily plunge of one-half of the male population into "green ruin." The question of absinthe, consequently, is conceived to have connections with half the moral and political "Questions" about which gentlemen of the *Figaro* are continually pinking colleagues of the *Corsaire*, and the Belleville politicians occasionally build barricades. Absinthe is not rare in west-end clubs; a few words on its history, composition, and effects may therefore point a moral in Pall Mall as well as on the Boulevards.

Few know how the insidious poison was introduced into Europe. The absinthium tree (*Artemisia arborescens*) is found as a garden ornament in Italy, Greece, and Spain; the other species, absinthe officinale (*Artemisia absinthium*) is that from which "green ruin" is extracted. Its stalk is herbaceous, the obtuse lobes of its leaves are covered on both sides with a woolly down; its blossoms are yellow. It grows spontaneously in great abundance in arid and uncultivated regions, and its cultivation for the apothecaries and distillers has become a special industry during the last forty years. The *liqueur*, *extract*, or *cream* of absinthe can be made from all the varieties of absinthe officinale, but those known as *absinthe romaine*, *little absinthe*, *absinthe pontique*, and above all *absinthe Suisse*, are preferred; the last is the most bitter and aromatic. The best liqueur is manufactured in the little town of Couvet, in Switzerland, and at Pontarlier, in France. The proportion of alcohol in this liqueur is considerable, since it marks 27° at least on the alcoholometre; its savour is strong, very aromatic, but not at all bitter. Workmen drink *absinthe verte*, or *absinthe blanche*, liqueurs of inferior quality, much less alcoholic, and much less mischievous. Absinthe is adulterated with angelica, spinach leaves, nettles, and sulphate of copper occasionally. It has only been in use as a liqueur for the last thirty years. The extract of absinthe, a common apothecary's drug, was extensively used in Africa against dysentery in the camps. The bibulous ne'er-do-wells of the African legions (*deux ans d'Afrique* is a severe military punishment) acquired a liking for the medicine, and an officer of Marshal Bugeaud's staff introduced it as a liqueur into Parisian *cafés*, making a great fortune by the innovation, it is said.

As to the effects of the aperitive, when taken habitually, there can be little doubt. It has the unfortunate reputation of being a poetical poison—like opium, like haschisch. The drunkenness engendered by beer, wine, and alcohol, though infinitely more pardonable in reality, since it is less pernicious, is gross and vulgar to the mind of the average Parisian, but a "spiritual" intoxication with absinthe is rather an interesting Bohemian eccentricity than otherwise. We are asked to bestow our respectful pity on Alfred de Musset, because he succumbed to *la Fée aux yeux verts*, and was found under her influence reciting *Rolla* in the streets of Paris night after night. Murger was killed by absinthe, Gilbert, and a legion of intellectual drunkards whom France numbers among the victims of poesy. Dr. Magnan, a young *alieniste* of some celebrity, has recently brought to light some facts concerning the effects of the poetical poison which should be made known to all devotees of the green-eyed fairy. M. Magnan collected a menagerie of guinea pigs, rabbits, cats, and spaniels at the hospital of Bicetre, and instituted an "hour of absinthe" for experimental purposes. The poison was administered in the animals' food, in pills, in capsules, and in tinctures. The result was invariably strong epileptic convulsions, and death after two or three days of the absinthe regimen. A special absinthe *séance* was given by the Therapeutic Society of Paris, for the edification of the pillars of boulevard *cafés*. The official account of the experiments, given by Dr. Bordier, is as follows:—"A guinea-pig was placed under a glass case, and beside it a saucer containing essence of absinthe. On first scenting the fragrant odour of the essence the animal appeared to feel a certain degree of pleasure, but in two minutes signs of suffocation were apparent, epileptic convulsions ensued for seven or eight minutes, and subsequently a complete lethargy. A cat and a rabbit treated in the same manner passed through the same phases of acute epilepsy. A rabbit, on the other hand, subjected to alcoholic vapours, presented more of the ordinary phenomena of intoxication—a brief agitation, giddiness, and somnolence. It cannot be alleged that the animals used for these experiments are possessed of a peculiarly susceptible nervous organisation. Numberless experiments have proved that toxical substances act upon them in exactly the same manner as on man."

Nothing has contributed so much to the generalisation of absinthe orgies as the species of poetical celebration they are constantly receiving. As it is chiefly the stimulant of the *gens de lettres*, it has a literature of its own. It has been sung by Monselet, the de Gondrecourts, Eugène Vermersch, just as the pleasures of

morphine are celebrated by a young semi-Chinese poetess of the day, as haschisch has been sung by Theophile Gautier, and opium by Baudelaire. Green ruin quickens the intellect, spiritualises the face unhappily. If it produced a few "jolly red noses" like the antique "ruin" reprehended by Cruikshank, it would certainly not remain long fashionable in Paris. But the light sceptics, the railers, the Ovids, and Juvenals of the literary Decadence, are great in their sphere by two things only: the mad dreams of a clairvoyant, and the transfigured expression of a fakir; and absinthe gives them both, together with the stoicism and apathy that say of the gibbet and of death:

"Le gibet, cet equerre, et la mort, cette grue."

which outburst of insane cynicism closes M. Vermersch's sonnet, *A l'Absinthe.*

EVELYN JERROLD.

SCHOOLS FOR COOKERY.—A premium was recently offered at a Californian fair to the young woman who should prepare the best dinner at the smallest cost This precedent might be followed with advantage, though perhaps there is less occasion to stimulate the public appreciation of the necessity for good cooking than to find some better means of facilitating the acquirements of skill in the art by the multitude of women who must cook for their own households. There are, indeed, schools of cookery, but they are few and far between, and are generally intended for the production of first-rate artistes. It is certainly strange that, considering the general outcry for more skilful preparation of food, intensified as it is by the present rise in the price of provisions, which renders waste of food in cooking simply intolerable, there is no systematic effort on the part of charitable persons to provide poor women with instruction in the most elementary branches of the culinary art.—*Pall Mall Gazette.*

OATMEAL, BONE, AND MUSCLE.—Liebig, the great chemist, shows oatmeal to be almost as nutritious as the very best English beef, and that it contains a larger proportion than wheaten bread of the elements that go to form bone and muscle. This was proved by a course of experiments carried on for a series of years by Forbes, the discoverer of the glacier theory, at that time Professor of Natural Philosophy in the Edinburgh University, and afterwards principal of the University of St. Andrews. For twenty years or so, he measured the breadth and height, and also tested the strength both of the arms and loins of the students; a very numerous class, consisting of different nationalities drawn to Edinburgh by his fame. These were the results:—In respect of height, breadth of chest and shoulders, and strength of both the arms and loins, the bottom of the scale was occupied by Belgians; above them, and but a little higher, stood the French; very much above them stood the English; while the top of the scale was occupied by the Scotch and Scotch-Irish, from Ulster, who, like the natives of Scotland, are fed in their early years with at least one meal a day of good milk and good porridge.—*Sunday Magazine.*

PRESERVATION OF MEAT.

THE daily papers have given accounts of a luncheon which took place the other day, at the Cannon Street Hotel, in order to obtain the opinion of competent judges on some meat killed more than three weeks previously, and brought by sea from Marseilles. These accounts would almost lead the reader to suppose that an idea existed of obtaining a supply of meat from the South of France which certainly would be completely chimerical.

The object of the meeting was not to introduce meat from a new source, but to show the effect of a new invention for the preservation of meat. This new process, which we believe has been patented in England, is the invention of an Italian gentleman, named Mariotti, and is peculiar in its character. The meat, which was brought over in quarters, or joints, had all the appearance of fresh meat, and was found to be perfectly sweet and good by the guests who partook of it; but it had undergone a certain amount of cooking which may be described in a few words. The inventor has taken advantage of the excessively high temperature of boiling fat to carbonise, as it were, the entire surface of the joint, and thus to prevent the action of putrefaction. According to the account given to the meeting, these joints had been dipped in boiling butter, thus casehardening the whole surface; and, as already stated, the meat was perfectly sweet.

Of course it is impossible to overlook the fact that this experiment has been made at a very favourable period of the year, and doubts will naturally arise whether a process which will keep meat good for a month in winter will prove efficient during a long voyage in hot weather. It is true that the carbonisation of the surface might be carried to a higher degree than was the case with the joints in question, and meat of which merely the surface had been cooked would be infinitely preferable to any cooked, we may indeed say overcooked, meat of the same quality put up in tins.

The cost of the operation has also to be considered. Butter is an expensive substance to be used in such a way, and it is perfectly well known to French cooks that lard and other greases, when thoroughly boiled, and sprinkled with water while boiling, are rendered perfectly pure and incapable of affecting the flavour of meat in any way, especially in such an operation as that in question,

for the carbonisation must be effected very rapidly. If, therefore, this new process be found effective, there seems no necessity for the employment of so costly a material as butter for the operation.

Under present circumstances every new plan of preserving meat which holds out the slightest promise of success is deserving of notice, and, therefore, we draw the attention of our readers to M. Mariotti's process.

For the information of those interested in this subject, it may be mentioned that the meat in question was introduced to London through the medium of the Australian Meat Agency, lately established at 113, Cannon Street, for the sale of preserved meats from all parts of the world, found suitable for the English market.

The plan of conveying meat in the carcase, or quarters, in vessels specially arranged for the maintenance of a temperature little above the freezing point has attracted considerable attention, and one or two experiments made in America, and the opinions and estimates of well informed persons on the subject hold out a fair prospect of success; but it appears that much time has been lost in waiting for a grand experiment, while the question might have been resolved on a small scale; in fact, we believe it to be correct to state that some of our passenger steam-boat companies have not only tried the experiment, but have discovered and practically adopted for some time a method of keeping meat fresh and good during voyages of considerable length by the cold process. We should be glad to be favoured with the particulars of any such practical processes, for every traveller would prefer well fed meat thus kept to tinned meat, or even to that of unfortunate animals kept and killed on board.

While on this subject we may add that dry salt has been found to be one of the best substances in which meat can be packed, and it has scarcely any perceptible effect even on the outside of the meat.

With all these facts before us, it is to be hoped that the day is not far distant when Australia and other countries will be able to send us all they can spare of the carcases of their millions of sheep and oxen, with, perhaps, a percentage of kangaroo venison and other delicacies, in good saleable condition, and at a moderate cost. If the grand enterprising body of shipowners of Great Britain who carry for half the world will but reflect on the importance of the trade that would thus be created, and call in a little science to their aid, we feel confident that cold cabins for the transport of meat would be just as successful as our ice chests on shore.—E. F. P.

COMMERCIAL TRAVELLERS.

"HAS thee brought the lemon," said a quaker traveller to the waitress, in a commercial room at Kendal, in the act of bringing him his supper of veal cutlets; another traveller might be seen preparing himself for the labours of the day by an early lunch on pigs' kidneys and champagne. Although commercial travellers may have their little fancies in the food direction, the grand meal of the day is not directly under their control, being provided as a general mid-day meal by the landlord, and joined by most of the fraternity stopping for the time being at the hotel. One may be pretty sure that a good dinner is provided in every well frequented commercial hotel,—north, east, south, or west,—as the landlord, setting aside any other considerations, knows that each traveller in his house will soon be hurrying over the country, and that if there is any shortcoming in the arrangement of his dinner, it will, of a certainty, form subject for discussion at other commercial dinner tables. The meal is not a hurried one, but partaken of with the most deliberate ceremony. Soup is generally followed by sherry, then come fish, several joints, etc. The conversation is never high-class—by high-class we mean of high interest in any way—being meagre, poor, and profitless. Such a tone being firmly established, it becomes the general and received one, and must therefore prevail at commercial tables all over the kingdom. Mention the death of Copley Fielding, or any other well known man, and you are asked, "Who did he travel for?" After dinner, and towards the last bottle or two, toasts are called for, but I cannot better illustrate that period of the commercial dinner than by quoting Albert Smith. He writes in his *English Hotel Nuisance*:—

"The general proceedings of these old-established commercial travellers are in accordance with the old-established house. I saw them at dinner; one of them, who was in the chair, they called Mr. President, and he ordered the wine and was generally appealed to. After dinner they asked me for a 'sentiment.' I knew none, I thought sentiments belonged to the middle ages; indeed, I had never met with any but in the last pages of sixpenny song-books, and it always tried my understanding to make out how any man, by gravely saying, 'May the wings of friendship never lose a feather,' could contribute to the conviviality of a dinner; so I said I knew none, to their great amazement, on which one of them observed, 'The gentleman seems green, Mr. President (a laugh), I'll give one for him if you please, 'Here's all fortunes daughters but the oldest, mis-fortune!' He thought

me green, well perhaps I was. 'Good again,' said Mr. President, knocking the table; and to this comicality followed one of those ghostly pauses which attempted smartness is sure to bring in its train into society."

He continues:—

"Experienced people had often told me, 'Ah! you should go to the travellers' room for fun;' but whether their humour was too esoteric, or whether (which I suspect) I had heard better, or whether I did not fall in with good specimens, I cannot very well tell; at all events, I was not dazzled on the present occasion. Their fun was all allusive; they would say one to another, 'How about the little widow at Peterborough?' or, 'I heard of the rare games you carried on at Stowmarket;' or, 'Ask Tomkins whether he means to go to Oswestry?'—and there was a laugh at each of these remarks. Certainly I did not hear one story or joke that I could remember, and I honestly believe that I am a capital audience."

There is no need to take in hand the food of the commercial world, which usually consists of fish, soup, good and honest wholesome joints, and plenty of them, with fair enough pastry and noble cheeses. The weak point is the wine; each man must drink, or at any rate pay for, a pint of wine—generally port or sherrry—when he dines with others at the regular commercial room ordinary, and the dinner is only charged 2*s.* or 2*s.* 6*d.*, no matter how costly it may be; when, at times, a splendid Sunday meal is put before a party of commercial travellers, they must order drink accordingly; so each man stows away his bottle, or possibly, in some cases, two; and there is a complaint known among travellers by the name of "Mondayish," the leading symptom of which, we fancy, is headache. The brotherhood consists of about 32,000 members, an important body which multiplies itself, as travellers have to be in as many places as possible in a day. How common it is to see a passing mention of a commercial traveller; "bagman" is the term in the current literature of the day, and nearly always with a sneer,—frequently written by people who cannot have been in a position to give any trustworthy opinion. A "bagman" is not a high title, but when we consider the nature of the employment, it certainly is not one to be lightly esteemed, as they must be men of trust, judgment, and fair ability, or they certainly will not make their way very long "on the road."

Many enjoy life, and no class understand and value the food resources of the kingdom better; they know to a mile the confines of clotted cream, where red mullet are in perfection, at which inn a snipe for supper can be safely ordered, where mushrooms most do flourish, the port at Preston, the sherry at Scarborough, the chops at Barnsley, etc. Each old traveller is a walking authority on food questions in all parts of the kingdom. They are pleasant, rough-and-ready fellows, and take weather and work cheerfully.

BOULEVARD GASTRONOMY.

PARIS epicureans are getting uneasy; habitués of Vachette, Brébant, the Maison Dorée, and other constellations of boulevard eating houses feel a strange nervousness creeping over them, and this sensation is intensified by the impossibility of tracing it to any definite origin. It is of no use to savour the wine, to taste the sauces, to try and find something to grumble at; in the abstract everything is irreproachable,—the *ragouts* are as well seasoned as could be desired, the truffles are real truffles from Ardennes, and not from Argenteuil, the *escargot's* origin is unmistakably Burgundian; and if you be privileged and take a peep in the kitchens of Vachette or Bignon, you cannot but retire to your table lamentably satisfied, and yet in entire dissatisfaction. There is a "*je ne sais quoi*" in the whole repast, assuming the epicurean to be something better than a boiled potato eater, which is indefinitely impalpable, an obscure conciousness that the art of the *chef* is masterly at the expense of his ingredients, and one realises at length the obvious fact that the far-famed boulevard "*bonne chère*" has seen its zenith. Culinary degeneracy has reached such a plight that M. Charles Monselet, the Brillat-Savarin of our days, has actually bolted the door of communication between his study and his kitchen, and turned bookseller in despair. However, there is no dearth of ingenious cooks, no want of clever heads to make a great deal out of a very little; in fact the siege of Paris seems to have made a new science of culinary ingenuity. In the times when the gods of the kitchen racked their heads to deceive their customers into the belief that a cat was a hare, the boulevard became famous for the wonderful perfection it had attained in this respect. Certain restaurateurs of the Boulevard des Italiens boasted that they could give a rat it would be impossible not to take for fowl, and whoever tasted the Parisian fare at this unpleasant moment must render grateful justice to the prodigies which boulevard *chefs* accomplished. All this was particularly excellent during the investment of Paris, but the siege being now an event of history, there still remained that gastronomical proficiency taught by circumstances which might be reasonably expected to enter a higher phase than Baron Brisse had ever gazed upon.

It has done so, indeed, but not in the way indicated by logic; it may seem almost parodoxical to say so, but the superiority of boulevard restaurants stands in a state of degeneration at the present time from overweening perfection, from exaggerated refinement, from continuul anxiety for new and more curious combinations. The worship of details is no more recommendable in gastronomy than in literature; the necessities of the siege of Paris turned a new leaf in the history of the essence of gastronomy and accentuated the already growing tendency of which the responsibility lies with those poetical and sentimental innovators who were not content with studying Brillat-Savarin, but tried to out-do him. Under recent influences the art has become so perfect, so wondrously suggestive of mental speculation, that besides tending to fall back into theory, in the long run, it reaches a period when too complicated mixtures become nearly unintelligible.

This is much to be regretted, for if the great restaurants of the boulevards sink to the same level as their brethren of other parts of the French capital, where shall gastronomists look to for supreme appeal and example? Besides the *mignardise* introduced in the fabrication of most Parisian sauces, eaters are to a certain extent responsible for the introduction of certain foreign heresies. Frenchmen have strong propensities for Anglomania; all the physical excellencies of England are gradually pounced upon, for if Frenchmen have a passion it is for athletics, muscular development, violent exercise—in fact, exactly for what their temper has made them unfit for; and one of the varieties of Anglomania comprised in the usual catalogue is passion for half raw meat. Twenty years ago it is more than certain that such an innovation would not have been tolerated, but now Frenchmen of the period dote on undone viands, perhaps with an idea that this regime may give them the physical power and health incompatible with their indolent and sedentary habits. The idleness of cooks has also something to do with it.

The passion for change, which seems to torment Frenchmen in general and Parisians in particular, has not limited itself there; Germany, of late years, brought her contingent of weird and incomprehensible combinations. For instance, currant jelly with leg of mutton or roast hare is now a very prevalent dish on the boulevards. What would Savarin or Grimod have said to this? It is not that French modern cookery errs in affranchising itself from certain prescriptions and traditional usages put forth by respected notabilities. Brillat-Savarin's receipt for *friture*, for example, is indefensible, and M. Charles Monselet has outstripped him in this respect. The author of the "Physiology of Taste" says that a

friture ought to form a kind of vault containing the accompanying *pièce*; whereas anyone slightly acquainted with these matters knows that a *friture* must be made as light as possible, that is, that it must not be compact and adhere to what it covers.

There is indeed a world of difference between the present restaurants—the really superior ones, of course—of the boulevards and what they were wont to be some thirty or forty years ago; in former days Paris was not the cosmopolitan maze it has become, the boulevard cheer was purely and essentially Parisian, and so elaborately but yet withal naturally dressed, that strangers could not do otherwise than render justice to its delicacies and take away French cooks with them. Foreigners are now so numerous and frequently fanatic of their national cookery that special *cuisine* is done for them; by degrees, the special *cuisine* for Englishmen, or Russians, or Germans, drifts insensibly into the realm of the orthodox and native cookery, and as we advance the invasion of foreign heresies into the precepts of those triumvirs of the dining board, Carême, Beauvilliers, and Brillat, produces more sensible impression. Restaurants, being forty years ago far less numerous, and chiefly patronised by proficient epicureans who made gastronomy a special study, were something more of sanctuaries of gasterea than the kind of buffets they most unmistakably are now. Modern restaurants are no longer subject to the strict control and supervision which a limited and intimate *clientèle* rendered especially easy. Cuisiniers are no longer on the alert for fear of detection from an experienced and sagacious diner. The cookery is a shade more lax, bears a stamp of yet imperceptible neglect which may soon become but too sensible. Go to Bignon's, not once, but several times consecutively, you will almost feel the downward movement; still Bignon is one of the cleverest of boulevard restaurateurs. As we said before, *cela manque de naturel*, and frequently you may have reason to doubt the superior quality of certain ingredients cleverly incorporated in some very delicate sauces; of course, no little attention and training is demanded to discover this. The common run of diners either do not like the trouble, or possess not the requisite sensitiveness of palate for detecting this shade. "*La carte du jour*" may be a handy document, and perhaps preferable for the uninitiated to the complex dictionaries of *gourmandises* so easily understood by culinary physiologists, but in a general point of view, boulevard gastronomy, in vulgarising its delicacies, drifts into the common. The scarcity of superior produce cannot have much to do with this gastronomical decrease, the excellent organisation of French markets enables La Maison Dorée, Le Café Anglais, Bré-

bant, Voisin, and the many other great boulevard eating-houses to obtain the very top of the market; the essence of the Halles Centrales is monopolised by them, and the richest of private hotels of the Chaussée d'Antin and Champs Elysées consider themselves exceedingly lucky if they can secure what the restaurateurs have left.

So much for the highest expression of Parisian epicureanism, but if we descend to the lower sphere of cheap boulevard restaurants, gastronomy is found all but vilely treated. The Bouillons Duval gave the word for cheap breakfasts and dinners at 1½f.; rival establishments sprang up in legions from the Madeleine to the Place de la Bastille, and competition obliged the cheap houses to keep their charges down, when the prices of provisions increased. It is needless to indicate the consequence. The bills of fare are exactly similar to the "cartes" of fashionable restaurants, only the miscellaneous sauces, the *mayonnaise*, the *sauce blanche à l'estragon*, the *sauce à la provençale* have amalgamated into one single and doubtful mixture. This sauce may be denominated under the vague appellation of "brown sauce," and whatever you may ask, the brown sauce will ever re-appear under a different name. If you ask for *filets aux champignons*, you have the obnoxious brown sauce around it; if you want *bœuf à la mode*, the abhorred brown sauce appears again; a request for *raie au beurre noir* is a pretext for another production of the implacable brown sauce. At first, it has no particular unpleasantness; a second and a third application suffice to turn sour the most enduring of mankind. There is something of the perpetual movement in this stolid re-appearance of the brown nuisance pompously clad in gorgeous names. Cheap boulevard refectories bid fair to become very soon unbearable; and when a portion of jugged hare is charged 40 centimes, ones mind plunges into highly uncomfortable reminiscences as to the prodigious cleverness of cooks in the concoction of stewed cats and rats, and the disgusted diner vows that he will eschew cheap boulevard restaurants for ever.

CAMILLE BARRÈRE.

A SOCIETY has been formed under the title of the National Health Society, which is to have for its object to help every man and woman, rich and poor, to know for himself, and to carry out practically around him, the best conditions of healthy living. The steps at present proposed are the holding of monthly meetings for the reading of papers; the establishing of classes for instruction in various branches of sanitary science; the delivery of free popular lectures; and the formation of a reference library and an information office. —*Nature.*

LIEBIG COMPANY'S EXTRACT OF MEAT IN CONNECTION WITH PROGRESS IN COOKERY.

ALTHOUGH it might have been supposed that by this time all doubts respecting the eminent nutritive value of Liebig Company's Extract of Meat had disappeared, discussion has been revived lately on the subject, and it has been stated that although the extract is a powerful stimulant and useful in every respect, yet it is not equivalent to meat—which neither Liebig nor any one else ever asserted it to be—and contains nothing by which bone, fat, or muscle can be formed.

Now, it is well known that Liebig's Extract of Meat, properly prepared, is nothing but beef-tea, free from fat, as real beef-tea prepared from prime meat should be condensed to the consistency of honey. For centuries past beef-tea has been enjoyed as an article of diet of peculiarly agreeable properties of flavour, stimulus, and nourishment, particularly suited for aged persons, children, and others of weak digestion. The instinct of man is too true a guide in these matters to allow it to be supposed that beef-tea (the consumption of which has enormously increased since the introduction into commerce of Liebig Company's Extract of Meat) is, though not equivalent to meat, without important nourishing properties.

The latest experiments, particularly those made by Dr. Kemmerich, of Bonn, well known by his writings on extract of meat, prove beyond doubt that the extract tends considerably to increase the formation of bone, muscle, and blood—in other words to strengthen the body. (See his pamphlet "On the Effect, Nutritive Value, and Uses of Extract of Meat."

Liebig's own words are:—

"Neither tea nor extract of meat is nutriment in the ordinary sense; they possess a far higher importance by certain medical properties of a peculiar kind. The physician does not employ them as specific remedies; they serve the healthy man for the preservation of his health. Taken in proper proportions, they strengthen the internal resistance of the body to the most various external injurious influences which combine to disturb the general vital processes, and they adjust these latter."—*Times*, October 1st, 1872.

Dr. Edward Smith, in a recent letter to the *Standard*, says:—

"The hardihood, however, of comparing extract of meat with beef-tea made from 1 lb. to 2 lb. of fresh soup—meat at a cost of 1*s.*—is surprising; for such

beef-tea would contain albumen and gelatine, with a portion of fat (besides the solid meat), of which it cannot be said that they are not nutriment in the ordinary sense."

And again—

"I must demur entirely to the attempt to confound Liebig's extract of meat with beef-tea or meat-juice, to neither of which is the remark applicable that they are not 'nutriment in the ordinary sense,' for they supply nutritive material on which the body may live; but it may be admitted that there are conditions of body in which it may act as a medicine."

From the above it would appear that the researches of Baron Liebig into this subject are unknown to Dr. Smith, who overlooks the fact that meat juice and beef tea are not the same, and that the albumen of meat boiled in water coagulates in the same manner as the albumen of eggs. Now, as the method of preparing extract of meat is identical with that employed in the preparation of beef tea, viz., boiling minced meat in water, it must be admitted that extract of meat and beef tea are essentially alike in their constitution, and equally effective when used as food. Although a small quantity of fat appears on the surface of beef tea, it would be entirely erroneous to suppose that the fat is an essential element. From 50 lbs. of fresh butcher's meat, which include 33½ lbs. of muscle, 10¾ lbs. of bones, 4¼ lbs. of fat, and 1½ lbs. of membrane, 60 pints of beef tea may be obtained, 7½ grms. of solid extract being contained in each pint. If these 60 pints of liquid are allowed to evaporate until reduced to the consistency of honey, they will yield 1 lb. of extract. Thus 1 lb. of extract of meat being dissolved in 60 pints of hot water, 60 pints of strong beef tea will be produced, each containing 7½ grms. of extract.

The economy and convenience of this extract for household purposes, especially for the ready preparation of fine flavoured soups, made dishes, and sauces, are now generally recognised, and it is a fact confirmed by many dealers that when the extract is once introduced into a house its use becomes permanent, and looking at the enormous and increasing demand, it may truly be stated that the great assistance given by the extract, forming, as it does, a sort of ready meat flavouring stock, has considerably tended to improve English cookery by the introduction of a variety of light and digestible dishes. This progress in cookery is the more to be encouraged as it leads to the utilisation of a considerable quantity of scraps of meat and fresh bones, useless by themselves, and not turned to advantage in too many English households.

We have it upon good authority that the Liebig Company slaughtered last season no less than 150,000 head of Cattle.

It may not be out of place to mention here a cookery book written

by the first German authority in the matter, Henriette Davidis, entitled "Kraftkuche von Liebig's Fleischextract (Braunschwirg: Friedrich Vieweg and Sohn), an English translation of which it is intended to publish shortly, and which may prove useful to English ladies.

AMERICAN LARD AT HAVRE.—The Havre Chamber of Commerce has sent a protest to the Minister of Agriculture against the troublesome formalties attending the importation of American lard at that port. The importer or consignee is required to notify the officials on the arrival of a consignment, and to have an expert assigned to open and inspect every package, the design being to prevent the entrance of lard infested with trichinæ. The fees for this examination are ten centimes per package, or a minimum of ten francs per visit. The Havre Chamber remarks upon the futility of the measure, since it is not general at the ports of the empire, and says:—"For more than ten years Havre has imported American Lard in quantities more and more considerable each year, without inquietude for the public health; and yet to-day, with all the official vigilance exercised, no shipment of unhealthy food has been proved."—*The Grocer.*

THE WEAR AND REPAIR OF THE BRAIN.—The notion that those who work only with their brain need less food than those who labour with their hands is fallacious; mental labour causes greater waste of tissue than muscular. According to careful estimates, three hours of hard study wear out the body more than a whole day of hard physical exertion. "Without phosphorous, no thought," is a German saying; and the consumption of that essential ingredient of the brain increases in proportion to the amount of labour which the organ is required to perform. The wear and tear of the brain are easily measured by careful examination of the salts in the liquid excretions. The importance of the brain as a working organ is shown by the amount of blood it receives, which is proportionally greater than that of any other part of the body. One-fifth of the blood goes to the brain, though its average weight is only one-fortieth of the weight of the body. This fact alone would be sufficient to prove that brain-workers need more food, and better food, than mechanics and farm labourers.—*Boston Journal of Chemistry.*

IT must be admitted that the *Scotsman* has some right to be proud of the success of the Scotch exhibitors in the recent great shows of live stock in England. Although Scotland has only about a ninth of the cattle in the three kingdoms, it has carried off about nine-tenths of the prizes. The other tenth has been secured by England, which has four times as many cattle as Scotland, while Ireland has not gained a single prize, since she was not represented. As to sheep, the Scotch, though still vindicating their superiority, have not achieved such extra-ordinary results. Scotland has a fifth of the whole sheep in the United Kingdom, a third of the number in England, and about a half more than there are in Ireland. "Yet here," says the *Scotsman*, "except in those breeds which are alien and unfitted to the Scottish soil and climate, Scotland has beaten England, and as to Ireland has 'found no enemy to fight withal.'" The absence of Irish animals from the competition is a significant indication of the poverty of that country in those products in which it should be specially rich. Ireland is exclusively an agricultural country, yet the quality of the Irish animals is such that they cannot even enter into competition with their neighbours.—*Pall Mall Gazette.*

FOOD AND CUSTOMS OF THE CORNISH PEOPLE.

THE common people are very hospitable, cleanly, and industrious. Some of their customs are very curious; for instance, they do not use a skimmer to take the cream off the milk, but do it with their hands. In some parts of Cornwall they do not use a churn, but stir the cream round one way with the hand until it is turned into butter; they always scald their milk, let it stand for a day, then skim the cream off, and make it into butter in the way I have just named. The butter is made up in long flat pieces of a pound each by using wooden implements, as in other places. It is very good and cheap, except in the winter, the average price being from 1*s.* to 1*s.* 1½*d.* per lb.

The water is very good, but pumps and wells are scarce. Some people have tubs with pipes laid on, but a great many have to fetch all their water for drinking and cooking from taps at a little distance from their homes.

The way they manage their crops is this. After the potatoes are dug up, the ground is sowed with brocoli seed. By this means they get two crops every year. Their way of baking bread is curious; the loaves are made round, and baked in an iron kettle. The people who bake bread, make their own yeast.

The Cornish people are very fond of tea; many of them have it five times a day, for breakfast, lunch, dinner, tea, and supper. As a rule most of them are teetotallers. They are very fond of broth or soup, made with onions or leeks, Swedes (or rooties) and cabbage cut up and boiled in it; sometimes adding small suet dumplings. In making fruit cakes, they line a plate with paste, put apples, gooseberries, or other fruit in it, cover it over and bake it. When cooked, they eat it with or without cream, and with sugar. They make heavy cakes of flour, lard or dripping, baking powder, sugar, and currants; roll them out flat, and bake them half-an-hour. There is a fruit found wild in Cornwall called hurts, which I think is not at all common. It is like the black currant in shape and colour, but rather smaller, and tastes very much like it.

The Cornish people are very fond of saffron in their cakes and buns. They dissolve it in water over night, afterwards mixing it with the other ingredients. It makes them look very rich, being

substituted for eggs, and it is said that more saffron is used in Cornwall than in any other county. There is another thing to be had in Cornwall called a junket, it is made of new milk, lukewarm, with a little rennet put in it, covered up, and then eaten with sugar. The Cornish people are very fond of cream on bread.

I should like to say a little about the different kinds of fish that are found. Soles are not very common, but still they are caught. Turbot are very cheap and good. There are very curious fish called rays,* which are mostly eaten by the poor. They are flat fish, and very ugly. They are cut open and salted by the poor to be eaten by them in the winter. There are also bream and bass found here; both are very nice fish boiled, and very cheap, four or five of very good size being bought for a shilling. Gurnards, regattas, cod fish, salmon peel (like salmon, but smaller), and lances are also caught. Lances are sold at twelve for a penny when of large size, smaller ones can be bought a basin full for a penny. Crabs, lobsters, and crayfish are also found, but are sent to London, where they fetch a much higher price than in Cornwall. Pilchards are also caught here. Cornwall is noted for its pilchard fishery. Mackerel are also found, as well as a large fish called whiting pollock, and ling.

Butchers' meat is of a very inferior quality in some parts of the county, and very scarce; the cattle having to be brought from a long distance. Poultry is also scarce; it is to be had from some of the villages, but is very difficult to get. Game is also a rare thing to see.

Tarrance Cove, at the Lizard, is noted for serpentine; it is found in the rocks there of different colours—red, green, and brown—and is used to make brooches, lockets, candlesticks, vases, etc. Fern and furze, used in the villages for fuel, are cut down and made into ricks, lasting nearly all the winter, and of course saving a great deal of coal.

A. G.

* Skate *(Fr. Raie)*.—ED.

CHICORY AND COCOA.—A correspondent writes that chicory is much improved by being kept in stoppered jars or bottles for five or six years, and adds that after being treated in this manner it may be used as an agreeable substitute for cocoa.

FAMINE IN PERSIA.—It is computed that three millions of human beings have fallen victims to the famine, notwithstanding the assistance afforded by the London Committee, and from other quarters.

OUR MEAT SUPPLY.

PART II.

THE figures in my former paper refer to 1871, and show a loss of 1,298,807*l.* arising from cattle disease. In 1872 the loss has been far greater, and when the returns are fully made up, I have no doubt that the number of cattle attacked, to say nothing of sheep and pigs, will fully reach, if it does not exceed, 1,000,000; representing (if my former estimate of 50*s.* a head is a fair one, as I think it is) a money loss of 2,500,000*l.*, or, in other words, a corresponding loss of monetary value in meat and a consequent addition to the price. It is true that the cattle which actually *die* of foot-and-mouth disease are but a small percentage of the whole number attacked—in 1871 only 7,904 animals of all kinds died, or were killed, out of a total of 691,565 attacked—and this fact perhaps leads the public to think less of the disease than they would if the mortality were greater. But we must consider not only death but deterioration in value, and the amount of this I have endeavoured to estimate fairly, though others put it at a higher figure.

Believing, then, that it is to the diseased condition of our stock, no less than to the increased demand, that we owe the present high price of meat, it becomes, I think, a very important question to ascertain where the disease comes from, how it arises, and how it can be checked. I have taken considerable pains to get at the truth of this matter, and have never yet heard of a single case in which the disease is satisfactorily proved to have been generated spontaneously amongst English cattle in the fields or in the stalls, but I find a very large number of cases in which it is distinctly traced to animals coming from Bristol.

I am aware that the authorities of the Veterinary Department deny that there is any connection between importation and cattle disease, ascribing it to "atmospheric influence" or other "general causes," happily vague expressions which are perfectly meaningless. They point somewhat triumphantly to the fact that foot-and-mouth disease "existed in most parts of England and in some parts of Scotland" in 1839, three years before foreign cattle were admitted. The argument would have more weight were it not for the fact,

which the Department has completely overlooked, that although *foreign* cattle were not admitted till 1842 the importation from *Ireland* had been going on for many years. The very pressure of increased demand which led Sir Robert Peel to remove the restrictions on foreign cattle had just at that time caused a very great development of the Irish trade. The boats were constantly crammed with cattle, and in the unhealthy conditions which were thus established we have all the elements of the outbreak of 1839. The steamers in which the cattle were carried were wretched craft, compared with those now used in the trade; the necessity for cleanliness and ventilation was not so fully appreciated as it is now; the conditions were worse, and the natural result was that, as the report of the Veterinary Department says, "The malady was more malignant at that time than it has ever been since."

But *how* does the disease arise? It was suggested by several members of a deputation from the Royal Agricultural Society to the Irish office in July last, that the disease was engendered on board the cattle-ships. Of this there can be little doubt, for Lord Spencer stated, and I believe was quite correctly informed, that there was at that time very little cattle disease in Ireland, and yet it was unquestionable that the animals were in a very unsound condition when they reached Bristol. Great stress was laid by the deputation upon the necessity for proper cleansing of the vessels, and several Chambers of Agriculture have dwelt specially on this point; but this, though of course very essential, rather diverts attention from another far more important point. Those who have found one cause sufficient, as they think, to account for an evil will not trouble to look for another; but I can testify from personal observation that the cleansing and whitewashing of the ships at Bristol is thoroughly well done. The root of the evil lies far deeper.

The Veterinary Department talks of "atmospheric influences"; where, I would ask, can such influences be found approaching in intensity the vitiated air of a cattle ship's lower deck? The crowding together of a large number of animals in a confined space to which fresh air has not free access, generates an amount of heat which cannot be realised without personal experience. I have known the two largest Cork steamers, the *Juno* and the *Preussischer Adler*,—both very fine ships admirably adapted to the trade,—bring a cargo of nearly 2,000 animals each; and even over the 2,000 when they have been almost entirely sheep and pigs. It is not uncommon for several animals to be suffocated; on the 27th November last, for example, a single Cork steamer had 87 dead. This is generally due to falling when the vessel rolls heavily in

rough weather; and to fall in such a dense mass is to die. Now only conceive the amount of heat generated by so large a body of animals closely packed, and the condition of the air which is still further vitiated by the *excreta*.

It is endeavoured to mitigate this "Black Hole" condition of ventilation, but a little reflection will show—what the thermometer will abundantly confirm—that the present arrangements are very imperfect. All that seems to be thought necessary is to contrive some means for getting a small quantity of fresh air down to the lower deck. This is done by means of a few air-shoots passing through the upper and main decks, and furnished with cowls which turn to the wind. So far good; but no sufficient provision is made for getting the foul air *up* from below. It is probably assumed that it will rise through the hatchways; but unless the wind is well "aft," and equals in strength the current made by the ship's progress, the draught will be oftener *down* the hatchways than up. If so, it pens back the foul air that ought to be rising there. The hatchways, therefore, even if always open, cannot act as ventilators, except to a small space a few feet each way from the opening, until the expansion of the foul and heated air below has reached such a degree of pressure as will overcome the pressure arising from the wind or the current of the ship's progress, a condition of atmosphere which must have been most injurious to the health of the cattle long before any such degree of tension was reached. The small relief afforded by up-cast air-shoots with the cowls turned from the wind is not worth mentioning. Cattle want *fresh* air, and are much less able to bear up against unfavourable atmospheric conditions than men are, owing, no doubt, to the much greater amount of carbon which cattle evolve, and which, therefore, vitiates the air they are breathing so much the more rapidly.

I am not prepared to say that in the absence of any specific disease-germ the mere unhealthy conditions of so short a sea-passage would of themselves *generate* the disease in *healthy* stock: though it must begin somewhere, and where so likely as amongst a dense mass of cattle closely packed under such circumstances. But the point that is overlooked is that in any ordinary cargo which has only had the benefit of hasty inspection, if any, there are sure to be some unsound animals, either bringing the disease with them in a latent form, from districts in which it already exists, or just the weak subjects in which it would originate. And then, what is the heated lower deck but an animal hotbed in which the seed of infection shoots with more than usual rapidity amongst the debili-

tated stock which are thus placed in the best possible condition for receiving it? But the run from Cork to Bristol does not occupy more than from 20 to 22 hours, and epizootic aphtha has an incubatory period of from 36 hours to five days, so that the disease is not sufficiently developed for detection by the inspector at Bristol. A few cases are stopped, but in thousands of others it is *latent*, and the animals are dispersed all over the country to develope it, to the purchaser's sorrow, when they reach their destinations.

I have left myself but small space in which to speak of the remedy, but it will be sufficient to indicate its nature. The compulsory slaughter of imported animals at the place of landing is, of course, only applicable to stock coming to the butcher, and seems to be inflicting much unnecessary suffering on the animals. Why not kill them at the port of *shipment*, and save the horrors of the sea passage, which must have a very deteriorating influence on the quality of the meat? The carcases would travel better than the live animals.

The Irish cattle are, however, chiefly *store* stock; for them quarantine is proposed, but probably without sufficient consideration of the magnitude of the Bristol trade. A quarantine of less than ten days would be worth nothing, and this would involve providing accommodation for two weeks' imports, *i.e.*, from eight to twelve thousand animals at certain seasons.

Why not endeavour to improve the conditions of transport? It seems to me that the point to aim at is to reduce the heat of the lower deck, which I feel sure lies at the bottom of the evil. This can be done in two ways; (1) by improving the ventilation, and (2) by reducing the number of the animals that generate the heat. As to the ventilation, with a powerful engine already at work, it surely cannot require any vast amount of mechanical ingenuity to connect with it a system of fan ventilators working at intervals round the *sides* of the ship, and the *after* part of the deck, in which the foul air is now pent up and intensified, whilst the same power, without much extra expenditure of steam, would work, say four exhaust pumps which would draw off the foul air as it is generated.

The reduction of the numbers of the cargo, which, though not sufficient to remedy the evil by itself, would contribute greatly to that end, would simply require the application to cattle ships of regulations as to the numbers carried and space allowed to each animal similar to those which are now applied by Act of Parliament to emigrant and other passenger ships.

GEORGE WALTERS.

MARKETS OF THE MONTH.

THE meat market is well supplied with beef and mutton, and vast supplies of pork are offered for sale at a price which is cheap, comparatively speaking. Mutton is making from 5*s.* to 7*s.* per 8 lbs.; beef from 4*s.* 6*d.* to 6*s.* 2*d.*; pork, prime small, from 4*s.* 6*d.* to 5*s.* A few lambs too have come to market, but the price is very high. At the Christmas cattle market the show of beasts was good both in number and quality. Large numbers were received from Scotland and Ireland, and all kinds—shorthorns, Welsh runts, Herefords, and Devons—were well represented; the foreign contingent was composed of 405 Dutch, 134 Spanish, and 129 Gothenburg, and was of superior quality. Scotland sent 1,360 beasts, Ireland 1,030, Norfolk and Suffolk 1,000, Midland and Home Counties 3,070, and the Western Counties 400. The market has not been so well supplied with mutton, choice breeds being limited, but the quality in general was excellent, and about 4,500 Dutch sheep formed no exception to this rule.

Leadenhall has been in gala attire; battalions of monster turkeys, and regiments of geese, with vast companies of fowls, fat and well looking, and hecatombs of game of all kinds bearing witness to the enormous consumption of these luxuries at this season of the year. That majestic bird, for the rearing and fattening of which our Eastern counties are so justly celebrated, is largely in demand at a price in comparison with which mutton and beef at 1*s.* pale into insignificance. Country dealers ask the agents of the great London dealers as much as 1*s.* 6*d.* per lb. for the noblest specimens, and find ready purchasers too at the price; smaller birds are worth from 1*s.* 3*d.* to 1*s.* 5*d.* per lb.; Irish and French from 10*d.* to 1*s.* Game of all kinds, as well as poultry, is dear. Capons make from 5*s.* 6*d.* to 10*s.* 6*d.*; pullets from 4*s.* to 5*s.*; fowls from 2*s.* 3*d.* to 4*s.* 6*d.*; geese from 6*s.* to 12*s.* 6*d.*; ducks from 3*s.* 6*d.* to 4*s.* 6*d.*; wild ducks, 4*s.*; widgeon, 2*s.*; teal, 1*s.* 6*d.*; black game, of which there is a good supply, 3*s.* 6*d.* to 4*s.* 6*d.*; pheasants, 3*s.* 9*d.* to 4*s.* 6*d.*; partridges, 2*s.* to 3*s.*; woodcocks, 3*s.* 6*d.* to 4*s.* 6*d.*; snipes, 1*s.* 3*d.* to 1*s.* 6*d.*; golden plovers, 1*s.* 3*d.*; black plovers, 10*d.*; hares, 4*s.* to 4*s.* 6d.; rabbits, 1*s.* to 1*s.* 4*d.*; pigeons, 1*s.* to 1*s.* 3*d.* each; larks, 2*s.* to 2*s.* 6*d.* per dozen.

Billingsgate is having a hard time of it to keep up supplies, and fish, in consequence of the weather, has been very scarce and dear

all the month. The season for fresh herrings is over, but sprats are now at their best and cheapest. Salmon (Dutch), monster turbots, smelts, skate, haddocks, whitings, soles, mullets, plaice, brill, eels, and many other kinds of fish are in market daily. Lobsters are cheaper than they were; at the beginning of the month those of good size were making 5*s.* each. Oysters are an expensive luxury, there is nothing under 1½*d.* each fit to be called an oyster, and the best qualities are worth twice as much.

Covent Garden absorbs daily enormous quantities of fruit and vegetables, and presents an imposing appearance of luxury and beauty which is unrivalled by the attractions of any other of our emporiums of trade. Prices are—oranges, St. Michaels, from 12*s.* 6*d.* to 24*s.* per box, Valencias from 13*s.* 6*d.* to 17*s.*, Lisbon, 15*s.*, China Seville, 9*s.* 6*d.*, Palermo, 7*s.* 6*d.* per box, Seville sours and Gibraltar sours, 5*l.* per 1,000, Tangerein, 8*s.* per 110, Mandarin, 9*s.* per 100; Messina lemons from 20*s.* to 25*s.*, Malaga lemons from 22*s.* to 25*s.* per case; Barcelona nuts, 18*s.*; Spanish, 16*s.*; chestnuts, selected, 16*s.*; walnuts, Bordeaux, 10*s.*; Naples, 24*s.*; almonds, Faro, 20*s.*; French from 20*s.* to 22*s.* per bushel; Lapucia nuts, 1*s.* 2*d.*; Kent cobs, 1*s.* 6*d.* per lb.; cocoa-nuts from 4*d.* to 6*d.* each; Almeria grapes about 9*d.* per lb.; hothouse black, 5*s.* 6*d.* to 7*s.*; hothouse white muscat, 7*s.* to 8*s.* per lb.; French lady apples, 2*s.* 3*d.* per box; hothouse pines, 7*s.* to 8*s.* per lb; pomegranates from 14*s.* to 16*s.* per 100. Of dried fruits I will mention French plums, which may be purchased at prices varying, according to quality, from 1*s.* to 2*s.* per lb.; muscatels from 110*s.* to 125*s.* per cwt.; Jordan almonds from 1*s.* 8*d.* to 2*s.* 6*d.* per lb.; figs, Eleme, from 45*s.* to 75*s.* per cwt., Faro, 25*s.*, Turkey, 130*s.* per cwt.; Normandy pippins from 95*s.* to 100*s.*; Normandy pears, 80*s.* per cwt.; Metz fruit, ½-lb boxes 13*s.* per dozen, ¼-lb. boxes, 9*s.* 6*d.*; Elvas plums, 1-lb. boxes, 22*s.* per dozen, 2-lb. boxes, 42*s.*, 3-lb. boxes, 63*s.* Of vegetables, I will only mention seakale at from 2*s.* to 3*s.* 6*d.* per bundle; imitation new potatoes, 10*s.* per dozen lbs.; button mushrooms, 1*s.* 9*d.* to 2*s.*, large, 1*s.* 4*d.* to 1*s.* 6*d.* per punnet; celery, 2*s.* per dozen; cauliflowers from 2*s.* 6*d.* to 4*s.* per dozen; and forced rhubarb, 1*s.* 9*d.* to 2*s.* per bundle. Best quality of native potatoes are now making from 10*l.* to 13*l.* per ton; large quantities of foreign come to market of inferior quality, and are sold at former quotations. Belgian kidneys in London make 6*s.* 6*d.* per bag; French round 85*s.* per ton. Eggs are now very dear, but will soon be cheaper. Price for fresh from 15*s.* to 18*s.* per 120; Foreign from 10*s.* 6*d.* to 13*s.* Fresh butter 1*s.* 8*d.* to 2*s.* per lb. P. L. H.

NOTES OF THE MONTH.

BUTTER ADULTERATION.

THE first of the many important questions with which the minds and skill of our chemists will be exercised under the new Food Adulteration Act has already cropped up. It has been prominently brought to our notice by Mr. Wilkinson, the honorary secretary of a committee of merchants, appointed at a meeting lately held at Manchester, for the purpose of considering the question of butter adulteration. The agitation commenced with the fining of a grocer, named Hurst, of Bolton, for selling butter, which, according to the analyst's report, "was very highly coloured, rancid, had an offensive odour, and contained 23·31 per cent. of water, and 7·63 per cent. of salt." From the letters and extracts we have received from Mr. Wilkinson, it is evident that the committee have practically raised two important questions. (1) What amount of salt and water must be looked upon as a "fraudulent addition" to butter? and (2) may not the analyst be deceived, through the alteration which time effects in butter, into believing that it had originally been mixed with tallow? On the first point they bring forward evidence which tends to show that no limit can be placed to the percentage of water and salt, as it must vary with the requirements of the dairy, the season of the year, and the length of voyage which the butter is destined to undergo before it reaches the consumer. There is, no doubt, much to be said in favour of the arguments adduced, but we should think, that, with careful observations, the maximum amount of salt required to keep the butter might be easily ascertained. We should not be inclined to believe that a few "per cents." either way would be considered by any one to be a "fraudulent addition" to an article avowedly sold as salted butter. Any unusually large amount of salt would defeat its own object, and would render the article liable to be rejected by the purchaser. The water question, however, stands on a different footing altogether, for there can be no doubt that butter may be made to take up such a percentage of extraneous fluid as might constitute a case of "fraudulent addition," because the consumer would be unable to detect it, and would be buying as butter an article which was really reduced in commercial value in such a way as to bring it within the Act. Even in this case, however, it

would not be desirable to draw the line too tightly, and due allowance must be made for the variable nature of the article itself, and the undesirability of pressing out too much of the water, which tends to render the butter "tallowy." We trust to be shortly in a position to express an opinion upon this subject, having placed it in the hands of our analyst for full investigation, and we invite the aid of opinions, and samples of genuine butter, from all parties interested in the matter. With regard to the adulteration of butter with tallow, we think that no experienced analyst would allow himself to be deceived in the way indicated, although we must confess that there is no reliable process at present printed in any professed text book of food analysis, for its detection. Two years ago we published a preliminary note, by Dr. Muter, of a test which he had discovered and intended to perfect. Since then we understand he has been engaged in applying it under all circumstances, and having now brought it to perfection, it shall be further alluded to in giving our conclusions on the other questions. In the meantime the thanks of all persons desirous of arriving at the truth, are due to the Manchester merchants for the steps that they have taken, and which, it is to be hoped, will be followed by further information and samples.

WE are happy to observe that while the efforts made to carry into effect the provisions of the recent Adulteration of Food Act are being rigorously proceeded with, there would seem to be a growing determination among our police and magistrates to put down the sister iniquity of short weight and unjust measures. Since the appearance of our last number, Mr. Woolrych has come down pretty heavily upon certain tradesmen at Battersea, who appeared before him at the Wandsworth Police Court, charged with using scales whose draughts were against their customers. Among the guilty two shone conspicuously. One, a grocer, who left the magisterial presence poorer, by "5*l.* and costs," than he had entered, pleaded that he had been 28 years in the same shop, and had never before been found out. Of course, the honest man did not use that form of expression, he simply said that during that period he had never, until that unfortunate occasion, been summoned. It is satisfactory to find that the particular line of defence adopted was not attended with any success. The other case, although only visited with 50*s.* and costs, was, as we are disposed to look upon it, quite as bad, if not worse. It was that of the manager of a co-operative store, also at Battersea. Now if there is one claim on which the

co-operative movement has relied as a recommendation to the public, it is superior merit. Both morally and commercially its promoters have made it their boast that they are not as the Saducees of ordinary retail trade, in fact their *raison d'être* only consisted and originated in the commercial dishonesty of their neighbours. But it would appear that "there is lime in this sack" too. It may be, and we heartily trust it is, an exceptional case, otherwise it will only be right that if a co-operative Pharisee think fit to indulge in the luxury of dishonesty, he may also share with the less righteous retail sinner, the luxury of "5*l.* and costs," with the prospect, on a second conviction, of a little wholesome exercise at "the wheel."

IT is at all times important that the subject of the waste of food should be brought before the public, and means adopted, if possible, to obviate the loss which is daily incurred by the neglect of simple precautions against the destruction of perishable articles of food; and more particularly is it necessary at the present time, with so much poverty and distress around us, with the prevailing high prices, and with winter now at our doors, that every means by which the supply of food can be increased should be adopted. Science has done a great deal in this direction. Improved modes of packing, the scientific use of ice and other preservatives, the increased knowledge of the uses of ventilation, and its practice, have all tended to add to the available sources of provisions and their economic value.

Parliament has wisely ordered the destruction of any food offered for sale in a state unfit for human consumption, and has directed the punishment of offenders who may thus attempt to dispose of uneatable and poisonous articles. But cannot more be done to prevent, in the first instance, the putrefaction of the food? It is impossible to restore the departed virtues of "high" meat or rotten fruit, and the only thing to be done with such exalted provisions is to destroy them; but it seems that in such instances as the following, a discretionary power should be given to the authorities to make some use of perishable comestibles which may become matters of dispute. An estate in Chancery is guarded and tended, and its revenues collected till the "rightful heir" is found, so that however ill it may be managed it does not run bodily to ruin. Why then should not some such supervision be exercised in the case of meat, fish, or other rapidly decaying articles which may become subjects of legal dispute?

Early in November, Mr. Frank Buckland seized, in the interest of the salmon fisheries of the country, six boxes containing 144 trout which were being illegally exported. It is not our intention to enter into the merits of the case itself, but to point out one fault which seems to exist in the Act. By the Salmon Fishery Act, 1861, all articles forfeited by offenders against the law are to be disposed of as the court may direct, and the proceeds, if any, are to be applied in the same manner as the penalties. If the fish should become unfit for human food before the case is fully tried, they may be destroyed. But why leave them the chance of becoming unfit for food? The bull trout referred to in the above case were, when exhibited before the magistrate, in such a putrid state that the court had to be fumigated. How much better it had been if the fish could have been previously disposed of by some responsible person? Their value was, we believe, entered on the Railway "Way Bills" as 130*l.*, and all this food was wasted. As it was, the defendant was convicted, and he of course consequently lost all title to the fish; but had he been acquitted of the offence he was charged with, the fish would have been equally lost to him, and it would in any case have been far preferable that *somebody* should have had the benefit of them. Cannot anything be done to remedy such an omission, not only in this but in other similar cases? We submit the suggestion to the consideration of those who are preparing the expected New Salmon Bill, in the hope that they may set an example that will be followed in the cases of other perishable articles of consumption.

WE are gratified to observe that the 119th session of the Society of Arts was inaugurated on the evening of the 20th November, Major-General Eardley Wilmot, chairman of the council, presiding, and that a considerable portion of his address was occupied by most important food questions. As an incentive to those who are directing their attention to the preservation of uncooked meat in the colonies, the former prize of 70*l.*, offered in 1864 by Sir W. C. Trevelyan, but not yet gained by any candidate, has been augmented to 100*l.* by the liberality of the same gentleman, and is now coupled with the gold medal of the society. It will form a matter of congratulation to every one should this prize at length be awarded. We may rest assured, too, that the honour will be bestowed worthily and deservedly, and the fact becoming widely known that cheap and absolutely fresh joints from the antipodes are likely soon to be

seen in our midst, will toll the knell of former high prices, and bring the lustre of expectation, and, bye-and-bye, of contentment, into many a poverty stricken eye to which it had long been a stranger.

GRONINGEN, in the north of Holland, is a province almost entirely devoted to the culture of potatoes. Of course, no one can hinder the Dutch farmers turning an honest penny in this way if they choose, but a native agricultural journal, according to the *Glasgow Weekly Herald*, recently made a statement which, to use the mildest term, places the industry in a very peculiar aspect indeed. It appears that the district possesses thirteen mills which are said to be constantly at work converting nearly the whole of the potatoes grown there into flour, of which 250,000 kilogrammes (about 246 tons) is produced per day. Thus far no one in this country has any right to object, but the journal proceeds to remark that the greater portion of this potato flour is exported to England to be used in the manufacture of bread. Now we admit that potato flour is a very good thing, but wheaten flour is a much better thing for food, inasmuch as the latter produces nearly five times the quantity of nitrogenous, or flesh-forming, material, and nearly three and a half times the carbonaceous, or heat-yielding, matter as the former. It seems evident, therefore, that used in the manufacture of pure wheaten bread, potato flour becomes a flagrant adulteration; and, if all the Dutch journal states be true, the sooner this monstrous fraud is looked into by our authorities the better.

THE questions as to whether the Game Laws should be abolished, modified, or maintained with their present strictness, are every year becoming more clamorous for a settlement, in proportion as the difficulty of living experienced by the toiling millions increases. Without venturing to churn up the depths of party rancour, which acrimonious discussion of questions such as these is so apt to intensify, we may, in a very few words, give the leading argument on both sides. The members of the Anti-Game-Law-League say "that the Game Laws interfere with the food production of the country, and that if the land now used for game preservation were brought under cultivation, the supply of food would be increased by one fourth." On the other side, the latest champion is the Earl of Malmesbury, who has taken considerable pains to collect

some important and interesting statistics on the subject. In his lordship's reply, which appeared in the *Times* of the 10th December, is the following:—"It is not on the waste land that game prospers, for the simple reason that it cannot find on it the grasses and insects which cultivation produces, nor the grain which partridges and pheasants glean from the stubbles after harvest. The more waste land there is, therefore, the less game will there be." In other words, the more widely we cultivate, the more game we shall find; excluding, of course, black-cock and red-deer, which have ever shunned the approach of the plough, and whose wild haunts are incapable of profitable employment. It has long been well known that an enormous number of hares and rabbits are annually slain for food, but the estimate in the letter already referred to of 30,000,000 as their probable numbers; 33,700 tons, about the weight of meat produced; and 1,500,000*l.* as the money value; however surprising, we consider much under the true figures. If, in addition, the weight of all the feathered game slaughtered and eaten throughout the country during the year could be accurately ascertained, we believe the gigantic total would astonish equally the foremost advocate and bitterest opponent of the Game Laws. The former would speedily perceive the wanton and unjustifiable loss he encourages by the undue preservation of game, coupled with the practical prohibition of the farmer's right to defend his own crops; the latter would stand appalled at the sacrifice of indigenous, wholesome, nutritious, and savoury food his extreme line of policy would ultimately inflict.

WE have several times alluded to the fair island of Ceylon and its products, and to the improvement which the reduction of the coffee duty and the enforcement of the Adulteration Act must ere long produce on the fortunes of the planters. More recently we have had to congratulate the land owners there on the bright prospect the success of the experimental trial of tea cultivation now opens up to them. Still they are not contented. The revenue of the island is suffering from the determined onslaught of a ruthless and innumerable submarine army, an individual member of which, as stated by a recent correspondent of the *Times*, "frequently attains the length of a dozen feet, and is armed with a jaw of tremendous power and peculiar construction, resembling the jaws of a stone crushing machine." It appears that in former times the pearl fisheries—which are said to have been in active operation for 2,000 years, especially that on

the north-west coast—were so valuable as to be a mine of wealth to all connected with them; but now their glory and profit have almost departed. Most of the large oysters have been mysteriously spirited away, whilst the supposed abductors still lurk in ambush ready to pounce upon the young ones not yet arrived at maturity. Deprived year after year of their valuable harvest of pearls, it was not in human nature tamely to acquiesce much longer in the wholesale spoliation; accordingly, the Cingalese employed experienced divers, who plunged to the bottom, and found the banks so covered with monstrous skate fish that the oysters were entirely hidden from view. These, then, were the dainty destroyers of the valuable molluscs and their concealed treasures. The divers, with an amount of intrepidity which will scarcely be credited, again descended, armed with clubs, and succeeded in driving off a few of the intruders. Now, it appears to us that if men could be found so dauntless as to risk themselves at the bottom of the sea among leviathans possessing such irresistable masticating apparatus, they might just as well have harpooned a few of the marauders instead of driving them away. Fed on oysters and pearls those skate could scarcely fail to afford food possessing a delicacy and flavour for the Aldermanic palate as far exceeding green turtle as that exquisite viand transcends all other known forms of human nourishment. Here, therefore, may be the germ of a new industry for Ceylon. If the pearl fishery is on the wane, why not develope that of the skate?

PLUNGED, as we now are, into the midst of the festivities inaugurated by time honoured Christmas, it may be instructive to pause a moment and receive a lesson from the writings of Professor Von Liebig on the characteristics of various stimulants, most of which enter more largely into consumption at this period of the year than probably at any other. Of all the wines, he says, red wine, in some cases beneficial, is the least hurtful; white wines generally are detrimental to the nervous system; sherry and strong cider more rapidly intoxicate than most wines, and have a peculiar influence on the gastric juices. Beer produces a heavy and dull intoxication, although the drinker of it is not apt to get thin. But the consumers of whisky and brandy *are going to certain death!*

DOMESTIC RECIPES.

The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.

MY GRANDMOTHER'S RECIPES *(continued).*

DUTCH PUDDING.

One pint of cream boiled, stir into it a ¼ lb. of butter, a little mace beat; then put in ¼ lb. of flour, six eggs, leaving out four whites. Bake them in little pans for three-quarters of an hour. Serve them with butter, wine, and sugar.

LEMON CHEESECAKE.

Take ¼ lb. of almonds bleached and beaten, 6 ozs. of melted butter, 6 ozs. of sugar, six eggs, leaving out three whites, the peel of two lemons boiled and beaten to a paste, the juice of one lemon. Mix them together and put a crust at the bottom of your pan.

ITALIAN CHEESE.

Take 1 qrt. of thick cream, the juice of two lemons, a large teacupful of brandy, and 1 oz. of sherry; sweeten to your taste. Whisk it well 12 minutes one way, then put a thin muslin in a hair sieve the size you wish your cheese to be. Pour it into this to drain and let it stand 24 hours, then take it out for use. The cream must be quite sweet and the lemon peel grated into it.

NOTICES OF BOOKS.

A DIGEST OF THE STATUTES RELATING TO PUBLIC HEALTH FOR THE USE OF MEMBERS OF URBAN SANITARY AUTHORITIES. By George F. Chambers, F.R.A.S., of the Inner Temple, Barrister-at-law. (London: Stevens & Sons.)

This publication in which much useful information is supplied concerning Urban Sanitary Authorities, their constitution, business arrangements, and officers, as well as their powers and duties, and relation with the Central Local Government Board, is likely to prove of great service to those for whom it has been specially prepared. The volume which is modestly put forward as an abstract merely, and not as a treatise, contains a list of upwards of seventy statutes, referring either directly or indirectly to the business of Urban Sanitary Authorities, as well as a table of cases to which latter reference is made in the body of the work. To each of the numerous questions affecting public health which have been made the subject of legislation during the past thirty years, a separate chapter is devoted. In every case abstracts of the statutes bearing upon the question are given; marginal references to them being also furnished. Financial matters, such as rating, borrowing, and auditing, are dealt with, the powers of the local authorities being carefully defined. The index with which the work concludes appears to have been compiled with considerable care. The question of Rural Sanitary Authorities is reserved for a future publication.

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